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ABSTRACT

This annual journal's premier issue features the work, thoughts, adventures, and musings of distinguished and respected teachers. An introduction reports that the journal was born of the desire by faculty to recognize college teaching as a profession and to bring to it its own language and traditions and to establish an academic culture for college teaching. The twelve papers are as follows: "Loving Teaching" (Peter G. Beidler); "Teaching to Improve Learning" (K. Patricia Cross); "Using Traditional Versus Naturalistic Approaches to Assess Learning Styles in College Teaching" (Tony Grasha); "Improving Learning by Combining Critical Thinking Skills with Psychological Type" (Dennis E. Campbell and Carl L. Davis); "Issues of Gender in Teaching and Learning" (Blythe McVicker Clinchy); "Student Involvement in Learning: Cooperative Learning and College Instruction" (Jim Cooper and Randall Mueck); "Critical Discourses: Collaborative Learning in Literary Studies" (Cyndia Susan Clegg); "Teaching With Cases" (Rita Silverman and William M. Welty); "Researching While Teaching: A Collaborative Action Research Model to Improve College Teaching" (Michael Schratz); "The Multiple-Paths Faculty Evaluation System" (Harvey Brightman and others); "From the Other Side: An American Teacher in China" (Peter G. Beidler); and "Dreams and Questions: Some Reflections on Teaching" (John K. Roth). References accompany papers. (JB)

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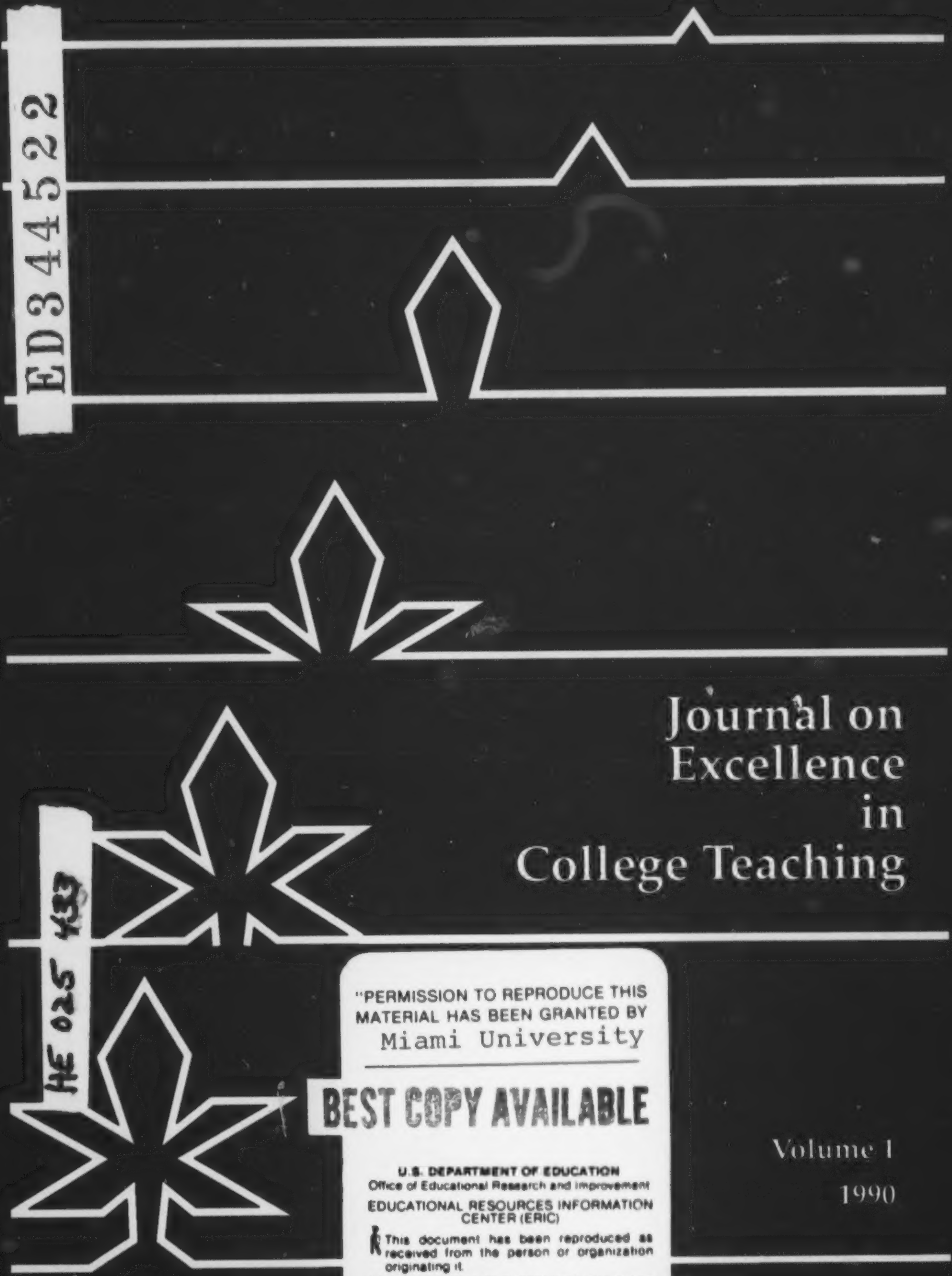

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Volume 1
1990

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Journal on Excellence in College Teaching

Volume 1 1990

Loving Teaching — *Peter G. Beidler* — 1

Teaching to Improve Learning — *K. Patricia Cross* — 9

Using Traditional Versus Naturalistic Approaches to Assessing Learning Styles in College Teaching — *Tony Grasha* — 23

Improving Learning by Combining Critical Thinking Skills With Psychological Type — *Dennis E. Campbell & Carl L. Davis* — 39

Issues of Gender in Teaching and Learning — *Blythe McVicker Clinchy* — 52

Student Involvement in Learning: Cooperative Learning and College Instruction — *Jim Cooper & Randall Mueck* — 68

Critical Discourses: Collaborative Learning in Literary Studies — *Cyndia Susan Clegg* — 77

Teaching With Cases — *Rita Silverman & William M. Welty* — 88

Researching While Teaching: A Collaborative Action Research Model to Improve College Teaching — *Michael Schratz* — 98

The Multiple-Paths Faculty Evaluation System — *Harvey Brightman, Yezdi Bhada, William Feldhaus, Vincent Giovinazzo, Nancy Mansfield, Les Rue, Mark Schaffer, & Art Schreiber* — 109

From the Other Side: An American Teacher in China — *Peter G. Beidler* — 118

Dreams and Questions: Some Reflections on Teaching — *John K. Roth* — 128

MESSAGE FROM THE EDITORS

Excellence in college teaching is created from a wide range of art and science in and out of the classroom, from the grandest of institutional schemes to the noblest of classroom creativity. The *Journal on Excellence in College Teaching* is born of the desire by faculty to recognize college teaching as a profession and to bring to it its own language and traditions—to establish an academic culture for college teaching. Over the past 10 years a group of dedicated teacher-scholars from a wide variety of disciplines and institutions have met and spoken of their teaching innovations, experiences, research, and inspirations at the Lilly Conferences on College Teaching. National conferences are part of any academic culture, and the Lilly Conferences have provided the foundation on which a journal on college teaching could begin. To lead a renewed national awareness of teaching, we are pleased to provide a written forum for distinguished work by respected college teachers. This premier issue of *Journal on Excellence in College Teaching* features the work, thoughts, adventures, and musings of some of the best teachers in the world.

Peter Beidler, 1983 CASE Professor of the Year, provides the keynote with his remarks to a gathering of faculty and administrators who understand that "good teaching is the throbbing heart of any good college." **Patricia Cross** is first to lead us into the classroom where, she says, it is "time to make college teaching a profession." As she so well describes, Classroom Research techniques were developed at Harvard by Pat and her colleague Thomas Angelo, because education is "too important to human survival and progress to continue such an inefficient and ineffective approach to classroom instruction."

Within the classroom, the focus remains on students as **Tony Grasha** finds individual preferences for learning in the "ongoing experiences of students." **Dennis Campbell** and **Carl Davis** delve into "how learners learn" by analyzing Myers-Briggs psychological types and preferred learning strategies. **Blythe Clinchy**, coauthor of *Women's Ways of Knowing* (1986, Basic Books), continues the emphasis on students with her description of how gender influences individual learning and how some women find their voices in "connected knowing."

Jim Cooper and **Randall Mueck** begin our authors' look at instructional strategies with the results of their extensive work on Cooperative Learning. **Cyndia Clegg** explores collaborative learning and its application to literary studies. **Rita Silverman** and **William Welty**, combining lessons learned from education and business, show how teachers can "energize their classrooms" by using case studies.

Michael Schratz describes how faculty at the University of Innsbruck started applying their research skills in the classroom to improve their teaching. **Harvey Brightman** et al. show again that there must not be only one road to excellence as a professor. Brightman presents a multiple-paths evaluation system that gives colleges and universities flexibility in developing a vital research and teaching faculty. **Peter Beidler** returns with an account of his year as a Fulbright professor at Sichuan University in Chengdu, China, an experience he undertook to fight the most pernicious enemy of excellence in teaching: boredom. His strategies for meeting the challenges he found in teaching students with much different expectations than their U.S. counterparts are applicable in our increasingly diverse American classrooms. Our premier issue concludes with reflections by **John Roth**, 1987 CASE Professor of the Year. Rather than providing pat answers, this inspiring piece brings us back to the core of our search for excellence: asking the right questions.

The work presented in *Journal on Excellence in College Teaching* is meant to be used by faculty and others concerned with providing the best education possible in our universities and two- and four-year colleges. We encourage you to read, ponder, use, and respond to the contributions in this volume. The dialogue is entered, and you are invited to participate.

Milton D. Cox and Laurie Richlin
Co-Editors-in-Chief

Beidler, P.G. (1990). Loving teaching. *Journal on Excellence in College Teaching, 1,* 1-8.

Loving Teaching

Peter G. Beidler
Lehigh University

It is an honor to be in the presence of so many people who care about teaching: members of the administration of the various member organizations of the Greater Cincinnati Consortium of Colleges and Universities, the colleagues and friends and families of the teachers being honored here, and, of course, the honored teachers themselves. Rarely am I in a room containing such a concentration of people who understand—who really understand—that good teaching is the throbbing heart of any good college.

I want to address most of my brief remarks to the honored teachers themselves. But first I want to make a few remarks to the others.

To the administrators, I want to say thanks for being the kinds of administrators who care enough about fostering and rewarding good teaching that you would attend a special luncheon to honor the really good teachers in your organization. The nature of your jobs is such that you must spend most of your energies making your college or university financially secure enough that you can pay the teachers and provide them with students to teach and classrooms to teach them in. It is good of you to come today to offer your personal thanks to some of your very best teachers.

To the colleagues of the honorees, I want to tell you how much it means to your friend to have you here. To be singled out for one's teaching is not a comfortable position to be in. It is exciting, of course, to be selected, but most good teachers know, finally, that they are like the unknown soldier in the famous tomb. They believe that their having been selected from among

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This article is a slightly revised version of a talk given after a luncheon honoring 16 award-winning teachers from the various member institutions of the Greater Cincinnati Consortium of Colleges and Universities. The event was held November 10, 1989, at the Ninth Annual Lilly Conference on College Teaching at Miami University.

Peter Beidler *teaches English at Lehigh University, where he is notorious for innovative teaching experiments. One year, for example, he and some of his literature students bought, renovated, and then sold a house near the campus as part of a class project in self-reliance. In 1983 he was named CASE (Council for the Advancement and Support of Education) Professor of the Year. He has published widely in various literary fields (Chaucer, American literature), as well as on teaching. His book,* Distinguished Teachers on Effective Teaching, *was published by Jossey-Bass in 1986.*

the various soldiers of the classroom for special honor is largely a matter of fortune, and that you might just as well have been selected. And they know that it is possible to be caring teachers only if they are surrounded by other good teachers, supportive co-carers like you. It is good of you to be here today to cheer your friends on.

To the families of the teachers being honored here today, I must offer especially warm thanks. You have learned by now that good teachers tend at times to have their priorities all twisted around. At certain times of the year their attention is not on their families, but on their students. I want to thank you for trying to understand when the great teacher in your life seems at times obsessed with teaching. All of you have made sacrifices in both time and attention so that the fine teacher in your life could do the only kind of teaching worth doing. You know firsthand the long hours, the annoying devotion to duty, the distracted look in the eye of a person thinking or worrying about teaching. It is good of you to be here today to see someone you love, but whose love you sometimes must share with a hundred others, receive recognition for good teaching.

Most of my remarks, of course, must be directed to the teachers themselves. This is your day, this is your luncheon. And I must begin by offering you my sincere congratulations. You do yourselves, and your profession, proud.

I want to talk with you today about a question that I know you are concerned about: whether you deserve the honor you are here to receive. You see, I think I know how you feel. I've been there, also, the honored—and embarrassed—recipient of a teaching award. Right now you are sitting there feeling pretty awkward. You are, of course, pleased and honored to be here among the Greater Cincinnati Area's finest college teachers. You are convinced that the other award-winning teachers at these tables deserve my congratulations. But you are not at all sure that *you* do. After all, you spend a lot of time in your own classrooms, and you know just how ineffective you are. A lot of people tell you how good you are, but *you* know:

—how many of your students you have failed to reach.

—how many of your little experiments in the classroom have not worked.

—how little you have read in the voluminous writings about how to teach or even about the most recent developments in your field.

—how often, in the press of time, you rely on old lesson plans or lecture notes or examination questions that you know you have outgrown.

—how often you yield to the temptation to teach to your best students when you know it is your worst who really need you.

You feel vaguely guilty right now, because you know someone else from your college who you believe is a better teacher than you are, and you feel that you are here under false pretenses. You even thought, at least for a moment, about refusing this honor so that it could go to someone more deserving. Such feelings are entirely normal in good teachers.

Do you want to know the first thing I did when I found out that I was named the CASE Professor of the Year back in 1983? I went out and bought a three-piece suit—this one I am wearing. If I did not feel the part of a fine teacher, I thought, I could at least look the part. How silly I was, because no good teacher I ever knew wore a three-piece suit in the classroom. And I hate this suit. It is a bad fit, and it is too warm. I suppose there are good teachers who teach in such garb as this, but I have never known one.

I will return to your modesty, your uncertainty about whether you deserve this award, later. But first, I want to say something about the profession of teaching.

You have been around long enough to know that you have entered one of the least respected professions in America. All of you have tremendous talent. You were good students yourselves, and you could have had your pick of professions, most of them with more prestige than yours. You could have been an *industrialist*, making things, building America, working in steel, producing the cars and trucks that keep America moving; a *business person*, making money, helping people buy their homes, investing, showing us the art of the deal; a *doctor*, saving lives, fixing bodies; a *politician*, cleaning up the drug mess, housing the homeless, being of the people, for the people, by the people. Those are exciting, prestigious careers. But what about teaching? What excitement, what prestige comes with your profession? What do we make? Cars? Money? Homes for the homeless?

We say, proudly, that in America anyone can become a millionaire; anyone can become president of Chrysler Corporation; anyone can become President of the United States. We are a rags-to-riches land, a land of opportunity, a melting pot in which cream of any color can rise to the top.

Why do we never say, proudly, that in America anyone can rise to become a teacher? Why not? Perhaps because our profession carries with it no fame. We can all name famous industrialists, developers, doctors, athletes, politicians: Lee Iacocca, Donald Trump, Joe Montana, George Bush.

Try to name me a teacher who is a household word. Indiana Jones, maybe, but he is just Hollywood, and we know him for the adventures he has outside the classroom, not inside. There are a few serious movies about teachers, but can you tell me the name of the real teacher who tried to walk up the down staircase, or the one who educated Rita, the one who stood and delivered? You can perhaps name the actor or actress who played the role, but can you name the teacher?

It is curious, isn't it? We do the most important job in America. We teach all those future industrialists, doctors, bankers, lawyers, politicians. We help them to learn the basic mathematical, scientific, and communication skills, the historical and philosophical background, and the human values that will permit them to achieve success in those fields and to lead useful lives in a dynamic American society. Why, then, is our profession valued so little, our work recognized so infrequently, our very best representatives so little known, so little valued?

I think our profession is so little valued in part because it is so difficult to know who among us are the good ones. America is a bean-counting, scorekeeping society. We Americans like to win, and if we do not win, we like to know how much we have lost by so that we can know better how to win the next time.

What are the beans in this bean-counting society? Well, industrialists count production units, like cars or computers or bottles of shampoo; business people count dollars; doctors count lives saved and babies delivered; athletes count home runs or tournaments won; hunters count deer bagged; movie stars count tickets sold in the first weekend of a new film's release; politicians count votes, poll responses, bills sponsored.

And what do we teachers have to count? Well, we try to count the number of our students who go on to grad school, class enrollments, student evaluations rounded to two decimals, years of service, research grants, publications (and how many pages, and how many of them are in refereed journals).

That stuff we can count, so we count it. But we all know that those beans, significant though many of them are, do not really measure teaching ability, do not really capture the magic of teaching. What beans could we count? We don't know. The only beans that really matter for us are the lives that we touch, the souls that we massage, the minds that we stimulate, the hearts that we inspire—and who can count that kind of bean?

Because we have no countable beans in our profession, our fellow Americans deny the importance of our profession. Oh, to be sure, many people will, when asked, admit that teachers—or at least a certain, specific teacher—had an important influence in their own lives, but they would not think of measuring or counting that influence.

We all know that some teachers are better than others, but because we cannot measure that betterness, because we have no beans for counting it, we have difficulty rewarding or honoring the good teachers any more than we reward or honor the merely so-so ones. It is, of course, unthinkable to offer annual commissions to the teachers who touch the most lives, or Christmas bonuses to the teachers who stimulate the most minds.

We speak of "merit pay," and we sometimes give it or get it. If we are the one whose responsibility it is to give out merit raises, we hope no one will ask us to say why *she* got no merit raise this year. We usually know why, but because we cannot quantify our answers, we feel awkward and ashamed and speechless, and wonder why we even bother with merit pay. How can we measure out dollars for teaching merit if we cannot measure teaching merit?

The problem is a real one for all of us. For administrators who want to reward the good teachers, it is one kind of problem. For teachers themselves, it is another. You honored teachers in this room are feeling awkward and uncomfortable and embarrassed because you do not know whether you deserve the honor you just received. If you are like me, you sometimes wish there were some kind of accurate bean by which we might measure good teaching, because you would really like to know whether you are a good teacher. Because there is no such bean, however, you feel embarrassed, ashamed, and somewhat hypocritical.

Well, I have no magic beans to offer, but I want to suggest three criteria which may let you know whether you are a good teacher. Take a moment, you teachers, to answer three questions:

First, do you *want* to be a good teacher?

Second, do you *work hard* at being a good teacher?

Third, are you a *loving* teacher?

If you answer yes to all three, the chances are pretty good that you do deserve the recognition you received today. Let me consider each one separately.

Do you want to be a good classroom teacher? Not everyone would answer yes to that one. Some would rather do research, or would rather spend their time in the laboratory, or consulting, or doing administrative work. Those are all important aspects of the work of a college professor, but a good teacher has to *want* to be a good classroom teacher. My guess is that all of you would answer yes to that question. Of course you want to be a good classroom teacher. You would not be here today if you did not desire, really desire, to be a good teacher.

Do you work hard at being a good classroom teacher? Surely you would all answer yes to that one. I have noticed something about the good teachers at the colleges and universities I have been associated with: They work hard at their teaching. They were not born good teachers. Teaching does not come easily to them. Fine teaching comes naturally to almost none of us. Has any of you ever known a lazy teacher who was also a good teacher? Can any of you say that teaching is easy for you? Can any of you deny—whether or not you think you deserve to be honored as a fine teacher—that you work hard enough at your teaching that, if any other teachers worked that hard, they would deserve to be so honored? I believe that most good teachers are teachaholics. We are addicted to our work. We cannot get a teaching "high"—that special feeling we have walking out of one of those rare, wonderful classes where everything clicked—without working hard at our profession. We know that good teaching is a kind of addiction. Having taught well yesterday does not satisfy our need to teach well today. We live for the high that good teaching gives us. We can get it only by working hard, by sacrificing almost everything else for it.

Are you a loving teacher? This is the most important of the three questions. I suspect that all of you can answer yes to this one. To be sure, you are not a loving teacher every day, and not with every class, and not with every student. But in the composite you are—each of you—a loving teacher. Why would you have stayed in this profession if you did not love the work, and the students? You would never stay for the money; there are far easier ways to make money. You would never stay for the prestige; there is little prestige even for the very best in our profession. You stay because you love what you do. You stay because you love that feeling of knowing that you are influencing tomorrow by touching the minds and hearts of your students today.

I want to talk a little more about loving teaching, the most important of these criteria. I entitled my talk, "Loving Teaching," because I like the gentle play of words in that title. "Loving" is both a verb and an adjective. Good teachers love teaching, yes, but they also teach in a loving way. If it is true, as I believe, that loving teachers are the best teachers in the world, and if it is true that loving teaching is what your being honored here today is all about, then I need to talk a little more about it.

Specifically, what kind of love am I talking about when I speak of loving teaching? It goes without saying, of course, that you love your subject—be it English, or art, or biology, or physics, or mathematics, or accounting, or theology, or engineering, or history.

But more important than love of subject is love of students. The love in loving teaching is a kind of parental love. You would not be here today if you did not love your students. By loving your students, I mean that you love them as a parent loves a child. You want to protect them and show them how to protect themselves. You want to help them learn to get along in the world and give them the tools to live an independent and enriching and moral life as citizens of a free country that demands responsibility as the price of freedom. You want for your students the same thing that parents want for their children. And even though the Latin term *in loco parentis* is no longer in vogue, the instincts of loving teachers are similar indeed to the instincts of loving parents. As a parent of four children, three of them in college and one just about to jump in, I know that the loving concern I feel for my children is very much akin to the loving concern I feel for at least certain of my students.

But the love in loving teaching is also very much like romantic love.

I find that there is a remarkable similarity between the love teachers feel for their students and the romantic love that two lovers feel for one another. Think about it for a moment. What are the key elements of romantic love?

Trust. Two people cannot love unless they grow fully to trust one another. When something happens to end the trust, the love ends as well. Loving teachers try to build and to earn trust.

Encouragement. Lovers encourage one another in their endeavors, even when they are discouraged about the prospects for those endeavors. Loving teachers encourage their students, even when they are not sure their students have much chance of success.

Praise. Lovers take genuine and unselfish pleasure in each other's accomplishments, and praise more fully than someone less loving might. Good teachers, similarly, praise their students, even when the praise may not be entirely deserved. It occurs to me that one of the reasons good teachers are so modest, so suspicious, about their right to be honored as good teachers is that they suspect the praise they receive may be the same "promissory praise" they sometimes give to students who want to be good students, and who try hard, but who just don't have it all together yet.

Self-revelation. Two people in love are not afraid to reveal something of their true selves. Similarly, good teachers occasionally put aside the stern mask of the Teacher and show some of the softness and uncertainty within.

Discovery. Romantic lovers are caught up in the excitement of discovery with each other—discovery of the wonders of the world around them, discovery of new feelings, discovery of new truths. Good teachers are in a similarly exciting process of discovery with their students.

Risk-taking. Lovers will take certain risks together in their mutual discovery of each other and of the world around them. So will loving teachers. One of the risks that loving teachers take, of course, is that the love between a teacher and a student can grow too romantic, too possessive, too demanding, and so become something destructive and ugly. That is a real risk, but loving teachers have a built-in quality that usually avoids the dangers associated with that kind of risk. That quality is:

Selflessness. All loving teachers, like all loving parents and all loving lovers, want, in the end, what is best not for themselves, but for the other. If teachers did not have that selflessness, they would not be loving teachers, and they would not earn the kind of recognition that you have received here today. Do you deserve that recognition? Of course you do. Do not yield to your natural inclination to be modest and self-doubting.

You know that you *want* to be a good teacher. There would be no point in your having chosen this profession if you did not want that.

You know that you have *worked hard* to be a good teacher. There is no way to get satisfaction out of this job if you do not.

And you know that you are a *loving* teacher, because you are willing to trust your students, to reveal yourself to them, to share with them, to praise and encourage them, to discover with them, and to take risks with them and for them. And you are selfless enough to guard against the emotional dangers—for you and for your students—that loving teaching entails.

Good teachers tend to be modest. That modesty is part of what makes you good. If you were the other kind of teacher, the kind who would stand up here and say, "What a great teacher I am, and it is about time someone noticed!" you would probably not be among those honored here today.

But *we* have noticed, and we can say it, loud and clear: "What a great teacher you are!" To signify that we have noticed, I now ask this audience, *your* audience, not mine, to stand and deliver to you another round of applause to tell you that we know you are loving teachers, and that we love you for it.

Cross, K.P. (1990). Teaching to improve learning.
Journal on Excellence in College Teaching, 1, 9-22.

Teaching to Improve Learning

K. Patricia Cross
University of California, Berkeley

Most of us have been in classrooms a good share of our lives, both as students and teachers. I figure that by the time we finish our doctorates, we have had roughly 90 different teachers, an opportunity to observe them for thousands of hours and to make some assessment of the impact of their teaching on at least our own learning, and usually plenty of hearsay about their impact on the learning of our classmates. That database would be an incredible luxury to any educational researcher. To my knowledge, not one of my colleagues doing research on teaching has ever received a grant that would permit such close observation of such a wide variety of teachers over such a long period of time. Yet despite extensive opportunities to observe teaching and learning, most of us embark upon our teaching careers knowing very little about teaching and learning.

It occurred to me as I walked home in the dark the other night that I look at the heavens every night, or at least am aware of—and sometimes in awe of—stars, moon, and changing patterns in the sky. Yet I know almost nothing about astronomy. I am a naive observer of the heavens, just as most of us are naive observers of teaching. Were I a trained observer or an astronomer, I would find things of fascination that the untrained eye fails to see. I would know what to look for, and I would grow in understanding and knowledge. My walk home would do more than take me to my destination. It would be a new experience each evening, a source of energy, an opportunity for growth.

The analogy could be carried to listening to a symphony orchestra or watching the ocean. Most of us appreciate a good symphony when we hear one, but

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This article is based on an address given at the First Annual Lilly Conference on College Teaching-West, March 17-19, 1989, University of California Conference Center, Lake Arrowhead, California.

K. Patricia Cross *is Conner Professor of Higher Education at the Graduate School of Education at UC Berkeley. She is a psychologist with research interests in the adaptation of institutions of higher education to changing student populations and to the changing role of education in society. She is the author of six books and more than 100 articles, mostly about adult learners, community colleges, and the future of higher education. She has been a teacher of high school mathematics, dean of students at Cornell University, Distinguished Research Scientist at Educational Testing Service, and Professor and department chair at the Harvard Graduate School of Education.*

the trained musician hears the nuances that distinguish outstanding performance from the average and takes delight in hearing the subtleties of subthemes and supporting chords. The trained musician has a sophisticated ear that hears things the rest of us don't hear and permits growth in ability to appreciate the fine tuning that makes for excellence. Similarly, when I look at the ocean, I see tides, waves, changing color, and certainly anything that moves, such as a boat or a seal. But I don't see the infinite complexity that is apparent to the oceanographer, nor do I take delight in learning and constantly adding to my knowledge and appreciation. I am a naive observer, even if on occasion a delighted one.

Most of us are naive observers of teaching and naive practitioners of the art and science of teaching as well. We don't know enough about the intricate processes of teaching and learning to be able to learn from our constant exposure to the classroom. We see the big things. We can spot a dozing student, one lost in some other world, or an eager hand waver. We know some things that are not supposed to happen. We don't want embarrassing silences when we ask a question; certainly we don't want hostility or obvious inattention. If these things happen, we may actively seek to learn their causes. But we are not trained to observe the more subtle measures of learning.

Indeed, we are not even trained to question our assumptions. We assume that what we say is heard accurately and retained by students, despite consistent evidence to the contrary. We assume that students can connect thoughts and write or communicate ideas and knowledge, and we are perpetually shocked at the consistency with which this turns out not to be true. But as naive observers, we don't question what we don't understand. Were we astronomers or oceanographers, we would pursue with great interest something that challenged our expectations or predictions. Are we curious about why students don't learn, why they come up with distorted ideas about what we thought was perfectly clear, why they fail to hear or follow the simplest directions? Well, maybe, fleetingly. But by and large, we don't set out to investigate these common departures from what we know should happen in class. We are soon on to other things, and the opportunity to learn from the experience is lost.

I must admit, of course, that even academics don't have to make everything into a learning experience. There are times when we want simply to relax without feeling an obligation to analyze, to understand, or to improve ourselves or others. I can probably afford to be a naive observer of the nighttime sky, despite my recognition that some knowledge of astronomy would almost certainly add to my enjoyment.

But the college classroom is not the place for relaxed naivete for either students or faculty. The experience would be far richer and more enjoyable if both teachers and students were more curious and more sophisticated about the effect of teaching on learning. But even more important, as educators, we have an obligation to understand the teaching/learning process well enough to improve it.

Teaching as art or science or voodoo is in an essentially primitive state of development. We are not standing on the shoulders of giants in advancing knowledge and improving practice with each generation of teachers. It is a fairly good guess that teachers coming out of graduate schools today are not teaching any better than those who graduated 50 years ago. That is not to say that their fields of study haven't made advances; it is simply to recognize that each young teacher starts from the beginning to learn how to teach. Education has become too important to human survival and progress to continue such an inefficient and ineffective approach to classroom instruction.

It is time to make college teaching a profession, one that grows and improves over the decades while offering the potential for continuous self-renewal for individual teachers. To do that, we will have to join knowledge of subject matter and knowledge of teaching. I think that union will have to come about in the graduate schools of this country. Graduate students preparing for life in academe will have to know their subject matter *and* how to teach it to undergraduates.

What I am suggesting is that training the next generation of teachers is primarily the responsibility of disciplinary specialists, in consultation with teaching and learning specialists. College teachers at every level need to know how to teach, not in an amateur way, in which some classes go well and others bomb, and we don't know why, or worse yet, in a way that leaves us uncertain whether our goals as teachers have been accomplished. We need to know how to teach in an expert way, with the ability to diagnose, analyze, evaluate, prescribe, and most important, improve the quality of teaching and learning in college classrooms.

The optimal mixture of teaching expertise and subject matter expertise will vary with the type of institution and level of instruction. Community college teachers need to be *experts* in teaching. Their teaching assignment is especially difficult, involving not only more students with learning problems and poor past histories of learning than any other segment of higher education, but also with unprecedented diversity in learning skills. It takes an expert to teach students ranging in reading ability from the 4th to the 16th grade level.

The teaching assignment of the graduate-level instructor is far easier. Students are more homogeneous in ability, and learning problems have been weeded out. But the complexity of subject matter has increased exponentially. These differences in emphases do not, however, excuse the community college teacher from keeping up with advances in the discipline or the graduate school instructor from developing expertise in teaching. Indeed, graduate teachers bear a huge responsibility for training the next generation of college teachers. Most of us teach as we were taught. Despite the fact that we are not very astute observers of the impact of teaching on our own learning, general patterns of classroom practices are picked up and perpetuated generation after generation without much question or evaluation of their effectiveness.

If we are serious about educational reform—and I think in statehouses and on most campuses, the desire to demonstrate improved student learning is sincere—then classroom teachers are going to have to play a more active role in assessing what students are learning. Teachers must use the results of that assessment to experiment with improving the learning of the students in their own classrooms.

Three years ago, I proposed in an address to the Annual Meeting of the American Association for Higher Education that it was time to take teaching seriously and that college teachers should become knowledgeable professionals in their chosen career of teaching. I suggested further that teachers should become Classroom Researchers, by which I mean careful and sophisticated observers of the process of teaching and learning as it takes place every day in their classrooms. Classrooms are invaluable laboratories in which to investigate the effect of teaching on learning. College teachers who know their disciplines and are charged with teaching them to others ought to be interested in determining how much of what they are teaching is learned by students, and they should be interested in experimenting to see if they can improve learning in their classrooms.

Classroom Research is different in concept, procedures, and purpose from educational research. I am using the word research in the simple dictionary definition of the term to mean, "careful, systematic, patient study and investigation . . ." The primary purpose of Classroom Research is to get feedback from students on what they are learning while the learning is in progress. It is not to seek generalizations about teaching and learning, but to answer the very specific question, What are *my* students learning in *my* classroom as a result of *my* instruction? Knowledge of sampling theory and the statistics of significant differences, the old standbys of social science research, are not required for Classroom Research, because classroom researchers are not trying to select a sample and generalize to the population at large. Although the results of Classroom Research will almost certainly enhance the knowledge of the instructor, they may or may not advance knowledge in general or contribute to learning theory; they may or may not be publishable; they may or may not utilize standard social science research techniques and designs.

Let me give an example of Classroom Research to make the concept concrete. One of our first activities in the Classroom Research Project was to develop some simple classroom assessment techniques that could be used by faculty members in any discipline to get feedback from students on what they were learning.

After a search of the literature and some modifications and inventions of our own, we came up with 30 classroom assessment techniques that we published in a handbook for faculty (Cross & Angelo, 1988). For example, one very simple classroom assessment technique is called "Minute Papers" and was developed by a physics professor at the University of California, Berkeley.

It was later revised and adapted for his purposes by a distinguished professor of statistics at Harvard (Wilson, 1986; Mosteller, 1989). A few minutes before the end of the class period, the instructor asks students to write the answers to two questions: (a) What was the most important thing you learned today?, and (b) What questions remain uppermost in your mind as we conclude this session?

I have used Minute Papers in my own graduate classes at Harvard and at Berkeley, and I must say that this quick and easy feedback device tells me more about my own teaching than anything I have ever used. It is more specific and timely than term papers, and it is more open-ended and subject to student selection of important points than a quiz or exam. An added advantage is that it forces students to think about the high points and to summarize and synthesize the day's lesson. Moreover, it implies that they should be actively thinking about new questions.

Minute Papers is an extremely simple classroom assessment technique. The 30 techniques that Tom Angelo and I have described in our handbook are generic, that is, they can be used to assess students' learning across a variety of disciplines. Assessment techniques in the handbook are organized into categories related to teaching goals. For example, a teacher might wish to assess critical thinking, or creativity, or students' awareness of themselves as learners. Or teachers might wish to get feedback about the effect of their teaching methods or assignments on students' learning.

The present handbook contains descriptions of feedback devices on topics such as these that are generic across the disciplines. But we are now in the process of preparing *Handbook II*, which will contain a second generation of classroom assessment techniques that are discipline-specific. We are working with college teachers in the San Francisco Bay Area to develop and field test in their classrooms assessment techniques appropriate to their disciplines.

In our experience so far, we have found it hard to get teachers to keep their questions for investigation simple. Many teachers initially propose studies patterned after the research they have seen or read about—experimental studies of the relative effectiveness of lecture versus discussion, for example, or an investigation into intellectual development, or studies of cognitive styles. The problem with this interpretation of Classroom Research is that most faculty lack the technical skills, time, and resources to conduct basic educational research and also the background that comes from extensive reading of the state of existing knowledge in the field. Thus, they are likely to reinvent the wheel and to face discouragement over their lack of technical and research skills in conducting credible social science research.

In making these observations, I do not intend to mystify research by contending that classroom teachers can't do it, or to discourage serious inquiry into learning issues that interest teachers. Some faculty are sufficiently interested in these broader questions about teaching and learning to inform themselves and to develop adequate skills for investigation. Indeed, some of our early participants in the Bay Area project have become sufficiently interested in learning that they are eager to equip themselves for investigation into more complex problems.

Our goal in Classroom Research, however, is not to *add* research projects to teaching loads, but to integrate research into everyday teaching. A well-designed Classroom Research project should teach as well as provide feedback about the effectiveness of that teaching. A study of critical thinking in the classroom, for example, might begin with the assignment of a task that requires critical thinking and permits systematic observations about how students approach the task and how well they perform. The Classroom Researcher would then experiment with modifications in the design of the task and its presentation, followed by an evaluation of the effectiveness of the changes.

Classroom Research is more a continuous, ongoing study of teaching and learning in the everyday classroom than a single investigation of a question, collection of data, and publication of the results. It is this ongoing, self-renewing feature that gives it its distinction as a faculty development activity capable of generating high interest and improved performance.

Now that you know roughly what Classroom Research is, I'd like to place it in the larger context of the educational reform movement of the 1980s. Nationally, we have attempted to use three levers to bring about improvements in the quality of undergraduate education. Those levers fall in the domains of politics, policy, and research.

The educational reform movement started in the *political arena* with the report of the Secretary of Education's National Commission on Excellence in Education (1983). The report, entitled *A Nation at Risk*, was a serious indictment of American education, making memorable such phrases as "the rising tide of mediocrity" and "unilateral educational disarmament." That report spawned statewide commissions and task forces in virtually every state in the union and eventually resulted in state-mandated assessments, with varying degrees of freedom for colleges to design their own institutional assessments.

One wing of the assessment movement is primarily interested in "assessment for accountability." The report with the no-nonsense title, *Time for Results*, issued by the National Governors' Association, is indicative of the promise of politicians to the public to assess the quality of education, and by implication, to do whatever is necessary to improve it. The other wing of the assessment movement emphasizes "assessment for improvement." It is represented by educators and politicians alike, and its purpose is to assess *in order* to improve.

While "assessment for improvement" seems the more constructive approach, we should probably raise questions now about the potential of even that logical approach to bring about significant improvements in students' learning.

Assessment, as it is usually conceived and carried out, is conducted at statewide and institution-wide levels, far from the classrooms where teaching and learning actually take place. Statewide assessments tend to slip into comparative assessments that tell which institutions are doing the best job of educating students. I'm not sure, nor I think is anyone else, how those comparisons will eventually lead to improvement in students' learning.

While institutional assessment is closer to the scene of the action, the criteria are usually still comparisons with state and national norms, and responsibility for improvement is hard to pinpoint. Faculty, it turns out, don't necessarily feel personally responsible for implementing the goals found in the mission statements of their college catalogs. In fact, most faculty members, even in relatively small, homogeneous liberal arts colleges, have rather specific, discipline-related concepts of their responsibility for the education of students.

As part of our Classroom Research project, we collected data from nearly 2,000 faculty members from two- and four-year colleges about their teaching goals, that is, what they wanted students to learn. It turns out, to no one's surprise, that science teachers have different goals from English teachers. Despite all of the recent emphasis on "writing across the curriculum," for example, our data show that faculty still perceive the development of students' writing skills to be primarily the responsibility of the English department. Whereas 68% of our respondents in the humanities divisions of four-year colleges rated the development of students' writing skills an "essential" goal of their teaching, only 13% of those teaching science considered it equally important. When teachers were asked to rate the importance of the presumably universal educational goal of "Developing respect for others, including persons of different backgrounds," 46% of those teaching career-related courses, for example, those in education, allied health, or communications, considered it an essential teaching goal, compared to 1% of those in the sciences. Teaching goals in the disciplines are visibly and legitimately different. What and how well students learn bears some relationship, we hope, to what teachers think it is important to teach. If teachers from the different disciplines have different teaching goals, then a variety of measures must be used to assess teaching effectiveness. Even more important, teachers themselves must be able to assess how well they are accomplishing their own discipline-related goals.

Fortunately for the "community" of academe, college teachers share some teaching goals. Our data show that the single most commonly accepted teaching goal today is the "development of analytic skills," considered essential by a majority of faculty across most of the disciplines. Presumably, then, most teachers would accept some responsibility if a college-wide assessment showed that students were failing to develop analytic skills, but many would shrug off data showing poor writing skills or failure to develop respect for persons of different backgrounds as "not my job."

Using the results of institutional assessment to improve learning is not going to be simple. I suppose that the outcome of most college-wide assessments will be revisions in the curriculum. Colleges will consider adding course requirements in areas where students are weak. But education, properly understood, is not so much additive as transformational. New learning transforms the old into new interpretations, and more subject matter or more courses may not be as valuable to students as the deeper understandings that might result from more skillful teaching.

I am not arguing that institutional assessments are not valuable. I think they are. What I am suggesting is that if the goal of the 1980s reforms is the improvement of students' learning, then *how* something is taught is every bit as important as *what* is taught. Classroom Research, as part of the assessment movement, is complementary to institutional assessment. It provides information that is timely, because it takes place during the semester while there is still time to make corrections. It provides credible information that has direct implications for change, since the teacher designs the assessment to provide information that he or she finds important and useful for improvement.

The second lever that we are using to implement reform is *educational policy*. Most policy is determined by state and campus administrators, but their responsibility for the improvement of learning is necessarily indirect. That is, they are not in the classroom and must try in whatever ways they can to influence the behavior of those who are in a position to affect teaching and learning directly. The further removed they are from the scene of the action, the more they must depend on manipulating reward and punishment to bring about the desired ends. Most of the rewards all along the line are monetary: budget, allocation, and salary. States determine budgets for institutions, campus administrators allocate funds for departments, and departments determine promotion and salary rewards for teachers.

The problem, according to research on faculty motivation, is that the extrinsic rewards that administrators and policy makers depend on are not very effective in changing faculty behavior. Most faculty members work hard and put in long hours without any supervision or work rules. Motivation in these autonomous situations is far more complex, it appears, than the simple reward/punishment views that prevail in determining incentives.

We have all witnessed the situation in which a faculty member is not working very hard and, as a consequence, receives low salary increases for several years. Does such a policy result in changing the inadequate performance that has been punished? Usually not. It is more likely that the faculty member will feel resentment and lack of appreciation, and the result will be less motivation for work rather than more. In an article entitled, "Financial Incentives are Ineffective for Faculty," McKeachie (1979) argues that policies that depend on extrinsic rewards will not do much to improve college teaching. What then should we do to develop more effective policy?

Rewards for teaching can be grouped in three categories. First are the external rewards that are used most often by administrators to effect change, such as salary, promotion, and tenure. Research demonstrates that these rewards frequently do not work as they are supposed to (McKeachie, 1979). For one thing, reward is in the eye of the beholder. Other things being equal, incentives such as salary, promotion, and tenure are probably more effective for a young faculty member than for an older one. We are facing a situation now in which tenure as an incentive has already been rendered ineffective for more than two thirds of the faculty.

A second group of rewards involve satisfactions that come as a byproduct of an activity. One may, for example, gain respect from colleagues and students for excellence in teaching, but the reward is the respect rather than the satisfactions derived from the activity of teaching. Teaching awards, although a nice recognition for teaching and outstanding teachers, have not been shown to improve the teaching performance of the faculty in general or even of the person recognized. In fact, if the individual really *was* motivated by the reward itself, what happens when the reward has been acquired? Even if you're the greatest teacher on the faculty, it is not very likely that you will receive the "Best Teacher Award" year after year. Teaching awards are more recognition for past performance than incentives for improving teaching.

The third type of reward is intrinsic. A person gives time and energy to teaching because of the intellectual stimulation to be found in preparing and delivering a lecture, for example, or the satisfaction of seeing students learn, or to satisfy one's intellectual curiosity about how students deal with an interesting concept in a stimulating class discussion. When faculty are asked about the major sources of work satisfaction, intrinsic satisfactions are almost always reported to be much more important than extrinsic rewards (McKeachie, 1979, p. 7).

Most policy makers don't give much attention to intrinsic rewards, figuring that policy can do little to enhance them. But such is not the case, and the research suggests that college faculty members are more likely than people who have chosen other careers to respond to intrinsic motivators.

Research into the characteristics of college faculty show them to be achievement oriented, intellectually curious, and autonomous. I therefore assume that most teachers want to be really good teachers, that they enjoy the intellectual challenge of discovering how to teach for maximum effect, and that they are self-motivated and self-renewing once started on the path of addressing a challenge to their intellectual curiosity and love of problem solving.

Why shouldn't faculty be involved directly in the assessment of the learning of the students in their classrooms? Wouldn't their predilections for problem solving and high achievement lead them to experimentation to see whether they could boost the learning of their students? Wouldn't this be one way to increase the intrinsic rewards for excellence in teaching? More important, wouldn't engagement in research on teaching and learning in their own classrooms provide an opportunity for continuous growth and self-renewal?

A basic assumption underlying Classroom Research is that accurate and credible feedback about the impact of teaching on learning carries a built-in challenge to teachers to see if they can increase learning through experimentation with more effective teaching methods. The best way for teachers to get feedback that has high validity for them is to design the assessment measures themselves. In simplest terms, the feedback loop in Classroom Research involves stating in assessable terms what students should be learning in the class, designing feedback measures to assess the extent to which they are learning those things, and then experimenting with ways to improve learning.

Earlier, I suggested that Classroom Research should not replace institutional assessment, but rather be complementary to it. Similarly, my point here is not to suggest that intrinsic rewards replace extrinsic incentives in policy making, but that ways to increase intrinsic rewards have heretofore been ignored by policy makers, and it is now time to correct that oversight. I think improving the intellectual challenge to teaching through Classroom Research is a potentially powerful way to do that.

Finally, *research* on teaching and learning has been, and continues to be, an important activity in educational reform. But educational research has not as yet made much impact on teaching. There are three possible reasons for the glacial pace of change in teaching: (a) It doesn't need changing, (b) It can't be changed, or (c) We don't know how to change it. There is a fourth, I guess, which is that it would be immoral to change it. Since I reject all of these as legitimate reasons for the present situation in which generation after generation continues to teach as they were taught, I want to take a brief look at what we know from research about effective teachers and effective teaching.

In higher education, most of what we know about effective teaching comes from the perceptions of college students. From hundreds of studies, most of them conducted in the last decade, we know quite a lot about what college students think constitutes good teaching. While students are, for the most part, naive observers of teaching, they do have maximum opportunity to see teachers throughout the semester, on good days and on bad, and they should know better than anyone else how the teaching affects their learning.

Ben Bloom, of the University of Chicago, distinguishes between "alterable" and "unalterable" variables in educational research (1980). Age, experience, academic rank, gender, race, etc., are unalterable variables; there is not much that we can do to change them. Fortunately, none of these unalterable characteristics show any very consistent or significant relationship to teaching effectiveness, with the exception of experience. In one important study, teachers with 3 to 12 years of experience were rated somewhat higher than those with either less or more teaching experience (Centra & Creech, 1976), leaving us pondering the question of what to do to remotivate an aging faculty. The general conclusion, after years of research on the relationship between teacher characteristics and student learning (not just students' perceptions of learning), hovers around .20 (Bloom, 1980), hardly sufficient to endorse the old saw, "Teachers are born, not made."

The characteristics of teach*ing*, as opposed to teach*ers*, however, do show significant correlations with students' perceptions of teacher effectiveness. One conscientious researcher reviewed nearly 60 studies of students' descriptions of effective teaching and found eight characteristics that appeared related to high student ratings in almost all of the studies: knowledge of subject matter, enthusiasm, concern for students, preparation, stimulation of interest, availability, encouragement of discussion, and ability to explain clearly(Feldman, 1976). There is nothing very surprising about that list. I suspect most of us would recognize those characteristics as associated with the good teachers that we know. Fortunately, those characteristics are alterable, i.e., subject to change by teachers, although not always very easily. While it is pretty clear what teachers should do to improve their knowledge of subject matter or to be better prepared for class, it may not be self-evident what they should do to stimulate interest or to improve their ability to explain clearly.

A smaller set of studies have attempted to relate classroom *behaviors* to teaching effectiveness. Behaviors that have been shown related to high student ratings are: stressing important points, giving multiple examples, signaling the transition to a new point, and establishing rapport or encouraging student participation by asking questions, addressing students by name, and showing concern for student progress (Murray, 1985). Such behaviors, in addition to being specific, have the further advantages of being alterable and observable. If observation can inform a teacher of weaknesses, then it may be possible to alter the classroom behaviors responsible.

That, briefly, is what we know about teachers as seen through the eyes of what I would call naive but sincere observers (Cross, 1988). The question haunting that research, of course, is, How good are students at evaluating the effectiveness of teaching? That question, or at least one piece of it, has been studied almost to the point of exhaustion. Unfortunately, the studies have been largely defensive, focusing more on investigations into why we should *not* use students to evaluate teaching than on what we could do to make them better evaluators.

Almost everything that anyone can reasonably propose as a biasing condition in student ratings has been studied. For example, are student ratings of their teachers related to grade or expected grade in the course, academic ability, reason for taking the course, whether it is required or elective, gender match between student and teacher, and a host of other variables that might bias students to give undeservedly low or high ratings. The general conclusion from all of this research is that there are not consistent or significant biases related to student characteristics. Students are, for the most part, both consistent and objective in the ratings that are routinely collected by most colleges today (Cross, 1988).

There is, however, evidence of small but consistent relationships between student ratings and course characteristics, most notably class size and whether a course is required or elective. Small classes (fewer than 12 students) and electives receive somewhat higher ratings (Centra, 1977), but the relationships are so small that neither required classes nor large classes can serve as an excuse for poor ratings (Gleason, 1986).

My conclusion, from the literally hundreds of studies that have been done on student perceptions of teaching effectiveness, is that its potential contribution for improving classroom teaching has been positive, but its effect minimal. On the positive side, there is evidence that teachers do change in response to student evaluations, and that they do so in as little as 6 weeks (Centra, 1973; Murray, 1985). Moreover, it is teachers who rate themselves higher than students rate them who are most likely to change.

Even more positive are findings from a meta-analysis of 22 research studies that showed that if teachers consult with a faculty development specialist about their student evaluations, the average teacher moves to the 74th percentile (in the judgment of students) by the end of the semester (Cohen, 1980). If colleges could raise the performance of the average teacher from the 50th to the 74th percentile in a semester by using student evaluations augmented by consultation, the result would be a tremendous improvement in the quality of instruction nationwide, and by inference, in students' learning.

It is important to remember, however, that most of the research I have described equates teaching effectiveness with student *perceptions* of effectiveness. What we have shown is that teachers can and do respond to student evaluations. If serious attention were given to designing student evaluations to help teachers improve, rather than primarily or solely for use in administrative decisions, and if students were given training in observing the effect of teaching on their learning, the results might be truly astounding.

Most of the studies in higher education on teacher effectiveness shed considerable light on generic behaviors—qualities that make for good teaching generally—but they don't distinguish between differences in fields of study. A very good physics teacher may behave quite differently from a very good English teacher. In fact, we found from our administration of the Teaching Goals Inventory (TGI) that teachers vary enormously in what they say they are trying to accomplish. To my amazement, every one of the 48 items in the TGI received the full range of responses. A goal that one teacher said was "essential" to the teaching of his or her class was rated "irrelevant" by someone else. Teaching goals also showed significant differences by age, gender, and, most dramatically, by discipline. Almost all of the 48 items in the TGI showed statistically significant differences among disciplines. Math and science teachers are especially interested in helping students develop analytic skills; teachers in the humanities are more interested than teachers in other fields of study in developing openness to new ideas and a lifelong love of learning. Teachers in the visual and performing arts are, as a group, far more interested than teachers in other departments in developing creativity.

There are interesting differences too in the values and goals of teachers classified by age or gender. Faculty members over the age of 56 are more interested than younger faculty in George Bush's "kinder, gentler nation." They are more likely than their younger colleagues to say that goals such as these are essential to their teaching: the development of academic honesty, respect for others, and a lifelong love of learning. Younger faculty, under the age of 36, are more interested in the academic reforms that we hear so much abouttoday: developing analytic and problem-solving skills and helping students demonstrate creativity. Increasing the number of women on the faculty will preserve, to some extent, the values of the older retiring faculty; women are significantly more interested than men in helping students develop a sense of personal responsibility, respect for others of different backgrounds, listening skills, and the ability to work collaboratively with others.

Our data from the TGI constitutes an excellent argument for maintaining or aiming for diversity on the faculty. But it also argues for faculty taking more interest in assessing what is important to them as teachers in their classrooms. I see little hope for constructive improvement in the education of undergraduates without the full participation of the teaching faculty, not just as members of curriculum committees and consultants on institution-wide assessment, but as individuals who must be able to assess whether students are learning what they think it is important to teach.

Classroom Research is one way to get college teachers involved in the intellectual challenges of teaching. My hope is that it will make teachers and students more sophisticated participants in teaching and learning as it takes place daily in classrooms across the nation.

Let me close by quickly summarizing what I believe are the unique contributions of Classroom Research to the reforms called for in the 1980s:

- Involves faculty members directly and professionally in their own continuing development as teachers.
- Joins pedagogy and subject matter knowledge to acknowledge discipline-based differences in the goals of teachers.
- Reduces the gap between research and practice. Relevance and credibility are enhanced when practitioners become researchers, looking into the problems that are relevant to them.

- Provides an intellectual challenge to teaching, which enhances the intrinsic rewards.
- Takes assessment into the classroom, where teaching and learning are actually taking place.

References

Bloom, B. S. (1980). The new direction in educational research: Alterable variables. *Phi Delta Kappan, 61*, 382-385.

Centra, J. A. (1973). Effectiveness of student feedback in modifying college instruction. *Journal of Educational Psychology, 65*, 395-401.

Centra, J. A. (1977). Student ratings of instruction and their relationship to student learning. *American Educational Research Journal, 14*, 17-24.

Centra, J. A., & Creech, F. R. (1976). *The relationship between student, teacher, and course characteristics and student ratings of teacher effectiveness* (PR-76-1). Princeton, NJ: Educational Testing Service.

Cohen, P. A. (1980). Effectiveness of student-rating feedback for improving college instruction: A meta-analysis of findings. *Research in Higher Education, 13*(4).

Cross, K. P. (1988). *Feedback in the classroom: Making assessment matter.* Washington, DC: American Association for Higher Education.

Cross, K. P., & Angelo, T. A. (1988). *Classroom assessment techniques: A handbook for faculty.* Ann Arbor, MI: University of Michigan, National Center for Research on the Improvement of Postsecondary Teaching and Learning.

Feldman, K. A. (1976). The superior college teacher from the students' view. *Research in Higher Education, 5*, 43-88.

Gleason, M. (1986, February). Getting a perspective on student evaluations. *AAHE Bulletin*, pp. 10-13.

McKeachie, W. J. (1979). Perspectives from psychology: Financial incentives are ineffective for faculty. In D. R. Lewis & W. E. Becker, Jr. (Eds.), *Academic Rewards in Higher Education* (pp. 3-20). Cambridge, MA: Ballinger.

Mosteller, F. (1989). The "muddiest point in the lecture" as a feedback device. *Journal of the Harvard Danforth Center on Teaching & Learning, 3*, 10-21.

Murray, H. G. (1985). Classroom teaching behaviors related to college teaching effectiveness. *New directions for teaching and learning, 23.* San Francisco: Jossey-Bass.

National Commission on Excellence in Education. (1983). *A nation at risk.* Washington, DC: U.S. Department of Education.

Wilson, R. C. (1986). Improving faculty teaching: Effective use of student evaluations and consultants. *Journal of Higher Education, 57*, 196-211.

Grasha, A.F. (1990). Using traditional versus naturalistic
approaches to assessing learning styles in college teaching.
Journal on Excellence in College Teaching, 1, 23-38.

Using Traditional Versus Naturalistic Approaches to Assessing Learning Styles in College Teaching

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Overview of Traditional Approaches to the Assessment of Learning Styles

Most of us take for granted the observation that people differ. However, this fact of human behavior was not always so well understood. For example, it was not until the early part of the 19th century that the implications of individual differences were recognized. Boring, in his book *A History of Experimental Psychology* (1950), suggests that the Dutch astronomer Bessel and his work on developing the "personal equation" provided a key turning point. Bessel recognized that individuals' responses to the same stimuli differed. By calculating the difference between two observers on a task, it was possible to correct the scores of one person relative to another by either adding or subtracting this difference. Thus, according to Boring, the formal study of individual differences began in psychology and education.

A variety of individual differences have been examined since Bessel began his studies. Some were not particularly scientific, for example, the study of bumps on one's head, handwriting analyses, and palm reading. Others, such as reaction times to stimuli and variations in intelligence and personality characteristics, have a strong empirical base. Among the types of personality characteristics studied were those called "learning styles."

Learning styles are the preferences students have for thinking, relating to others, and particular types of classroom environments and experiences. A

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large number of such characteristics have been identified (Curry, 1983; Fuhrmann & Grasha, 1983; Keefe, 1982), and a comprehensive literature exists on the usefulness of diagnosing students' learning styles and designing instructional environments accordingly. Much of this work employs self-report personality tests, opinion and attitude surveys, and instructional preference instruments. The specific types of measures used range from traditional personality inventories (e.g., the Myers-Briggs Personality Type Indicator, the Embedded Figures Test of Field-Independent/Field-Dependent Cognitive Styles, Taylor Manifest Anxiety Scale) to those anchored in the dynamics of classroom experiences (e.g., Grasha-Riechmann Student Learning Style Scales, the Learning Oriented-Grade Oriented [LOGO] student survey, Kolb's Learning Style Inventory, Friedman & Stritter's Instructional Preference Questionnaire).

Using a Traditional Learning Style Instrument

As one example of the information traditional approaches yield and how such information is employed, consider for a moment an instrument I have spent the past 18 years developing and using: the Grasha-Riechmann Student Learning Style Scales (GRSLSS). Two versions of this test exist: The General Class Form assesses students' perceptions of their learning styles across all of their courses, and the Specific Class Form measures the same learning styles as they relate to a specific course. The questions are based upon the classroom experiences of the student and include items such as, "I like to study for tests with other students," "I seldom get excited about material covered in class," and "To get ahead in class, you sometimes have to step on the toes of other students." A summary of the personality dimensions assessed by this instrument and how each relates to the preferences students have for particular instructional techniques appears in Table 1.

Instructors using the GRSLSS obtain a numerical profile showing where individual students and the class as a group fall on each dimension. The mean scores for one such testing of an American history class were as follows, based on the General Class Form of the GRSLSS: Competitive (3.7), Collaborative (2.6), Independent (2.2), Dependent (3.9), Participant (4.1), Avoidant (1.8). The rating scale ranged from 1 to 5, with 1 indicating a low score on a particular learning style and 5, a high score. The test was administered during the first week of class. Relative to norms for the test, the scores revealed that students were somewhat low on the collaborative and independent dimensions, a little higher than average on dependency, and somewhat competitive and willing to participate in classroom activities.

Based on this information, the instructor decided to modify certain aspects of the course. Initially, she had planned to use a traditional lecture-discussion format, give three exams, and assign a term paper. After reviewing the GRSLSS scores, however, she became concerned that this would only reinforce the dependency and competitiveness that existed in the group. The test revealed

Table 1

Description of Grasha-Riechmann Student Learning Styles and Classroom Preferences

Personality Dimensions	**Learning Styles**	
	Characteristics	**Preferences**
Competitive	• Learns material in order to perform better than others in class • Feels need to compete with other students for rewards offered in course	• To lead and dominate discussions • Teacher-centered instructional procedures • To be singled out in class for doing a good job • To participate in class activities in which he or she can do better than others
Collaborative	• Learns by sharing ideas and talents • Cooperates with teacher and peers • Likes to work with others	• Lectures, small group discussions and seminars, group projects • Student-designed aspects of course
Avoidant	• Has no enthusiasm for learning content or attending class • Does not participate in class • Is uninterested in and overwhelmed by class activities	• No tests • Lenient grading practices • Unenthusiastic teachers
Participant	• Is good citizen in class • Enjoys attending class and takes responsibility for getting the most out of a course • Wants to take part in as much of the course activity as possible	• Lectures, discussions, reading assignments • Teacher who analyzes and synthesizes information well
Dependent	• Shows little intellectual curiosity • Learns only what is required • Views teacher and peers as sources of structure and support • Looks to authority figures for specific guidelines on what to do and how to do it	• Outlines or notes on board, clear deadlines and instructions for assignments, teacher-centered classroom methods, as little ambiguity as possible in all aspects of course
Independent	• Likes to think independently • Prefers working on own but will listen to others' ideas • Learns content he or she considers important • Is confident of learning abilities	• Independent study, working alone, self-paced instruction, assignments that allow independent thinking, student-designed projects, student-centered course design

that students had relatively lower scores on collaboration and independence, which were characteristics she valued. Because students were also above average in their willingness to participate in whatever course activities were provided, changing the format somewhat probably would not be too disruptive.

The instructor decided to employ techniques that would enhance their independent and collaborative learning styles. Students were given opportunities to complete two independent writing projects and one group project during the term, and they spent time during most class sessions discussing issues in small groups. An assessment of their learning styles at the end of the term, using the Specific Class Form of the GRSLSS, suggested that students perceived themselves as somewhat more collaborative and independent.

In teaching American history, the instructor purposely created some mismatches between the learning styles her students preferred and the classroom methods she practiced. A second strategy she could have used, and the one most often employed, is to teach the course so that the strongest learning style dimensions are reinforced. Finally, she could have provided enough variety in the classroom procedures used across the semester to tap into each of the six learning styles that students possessed. The latter strategy is a variation on the theme "variety is the spice of life" and acknowledges that teaching to particular styles under many circumstances is difficult. The specific strategies employed by instructors are often related to their comfort with certain teaching procedures, the course content, and a willingness to create the tension necessary to get students to learn in alternative ways.

Similar processes of matching, mismatching, or providing a variety of teaching approaches would be employed regardless of the type of traditional learning style instrument used. Differences might occur, however, in which components of students' learning styles were emphasized in the course design, depending upon the orientation of the instrument (e.g., how students think, their motivation for learning, the manner in which they interact with peers and the teacher, their orientation toward grades or learning).

Problems With Traditional Approaches

About five years ago, my disenchantment with traditional approaches to the study of learning styles began. Some of the reasons involved issues with the psychometric properties of the instruments, the failure of some authors to identify clear instructional procedures that would enhance certain styles, and the relatively small effects in student achievement and satisfaction that applying learning style information produced in many studies (Grasha, 1984). The data appeared to fall short of the promises being made by some advocates of incorporating learning style information into teaching. Fitting instructional processes to the personality characteristics of students was producing small successes but not the large ones some advocates claimed.

Another difficulty was that instructors who rely on any one instrument create personality profiles of students specific to a given test. Thus, they run the risk of overlooking important aspects of the students' learning styles or the instructional environment that might make a difference in how students learn. While not everything can be measured, what is ignored may be the most important factor in the situation.

An example of the latter problem occurred recently when a colleague and I were trying to assess differences between the morning and afternoon sections of a course we team taught. In spite of having a similar composition of majors, the same teachers, and identical course content and instructional processes, the two groups felt different to us. Among other things, the morning class made more mistakes on assignments, did not pay attention as well in class, and were noisier and more outspoken. We administered three popular learning style instruments to the class (the GRSLSS, Kolb's Learning Style Inventory, and the LOGO student survey) to determine which student characteristics accounted for variations between the two sections. There were no significant differences between the two sections in the 12 learning style dimensions covered by the three instruments.

Differences did not emerge until we taught a session on transactional analysis theory and used a classroom exercise to have students evaluate the parent, adult, and child components of their personalities. The morning class scored higher on the natural child dimension (the creative, spontaneous, emotional part of our personality) and lower on the adaptive child dimension (the part of personality that makes us follow rules and obey commands) and the critical parent dimension (the part of personality that censors actions). The critical differences between the sections were not found in the 12 learning style characteristics we examined. Rather, we had to look elsewhere to discover the attributes of personality that accounted for the variations between the morning and afternoon classes.

Finally, in seminar and workshop sessions I was running, colleagues outside of education and the social sciences were suggesting another problem with traditional approaches. There were always a few participants who were less enthusiastic about using learning style information to design classroom processes than I was. To quote one person, "I can't relate well to those categories and the numbers associated with them. They do not describe people as I know them. You are putting students into little boxes and missing the essential qualities of what makes someone a dynamic human being. It's too sterile for me."

My initial reaction was to acknowledge the comment, but after the seminar or workshop, I largely dismissed it. After all, personality profiles were a legitimate part of my discipline, and if someone could not appreciate them, so be it. The problem was that every time I heard a similar comment, it became much more difficult to ignore. I began to think they might have a point. If what people were telling me was accurate, I was faced with another dilemma: how to capture the dynamic quality that makes a student a fully functioning human being.

To date, my approach had been quantitative, and I now faced the task of examining the qualitative aspects of teacher-student interactions. It quickly became apparent that my favorite quantitative tools would not be of much help to me. I would have to look elsewhere for alternative procedures to describe students.

Naturalistic Approaches to Assessing Learning Styles

I began to search for learning style descriptions that were grounded in the ongoing experiences of students and not in the responses to items on a personality test. I labeled such approaches "naturalistic" and discovered that some procedures already existed. I also began to develop a few approaches of my own to the problem. Naturalistic approaches involve in-depth interviews with students, direct observations of classroom behaviors, the study of learning projects, and the use of metaphor or practical poetry. A description of each approach and its educational implications follows.

In-Depth Interviews

Interviews are an excellent way to find out about students' experiences as learners. Their narratives are a rich source of information about their attitudes toward teaching and learning, their learning processes, and their preferences for instructional techniques. While somewhat time consuming, interviews yield a great deal of qualitative data about learning styles.

Perry and his colleagues, for example, used interviews to assess the intellectual and ethical development of students (1970). Through the interviews, they were able to trace the evolution in students' thinking about the nature of knowledge, truth, and values as well as the meaning of life and personal responsibilities. Their approach describes the steps by which students move from a simplistic, categorical view of the world (we-they, right-wrong, good-bad) to a realization of the contingent nature of knowledge, relative values, and the formation of lifetime commitments.

Three styles of thinking in college students emerged from the interviews, and they were labeled in order of complexity as dualism (either-or thinking), multiplicity (acknowledging multiple perspectives), and relativism (knowledge is situational). Each was seen as a stage in intellectual development in which several outcomes were possible. Students might progress in an orderly fashion through the stages, delay their progress by remaining in a given stage, or retreat from a higher stage to a lower one (e.g., relativist back to the security of the right-answer orientation found in dualistic thinking).

Students who view the world as dualists use discrete, concrete, and absolute categories to understand people, knowledge, and values. They are interested in finding the right answers to questions and have a difficult time evaluating alternative points of view. They may be heard in the classroom saying, "Why do we have to learn so many different points of view?", "Why don't you teach us the right ones?", and "What is the correct answer?"

Those who view the world multiplistically acknowledge that there are multiple perspectives to a given topic or problem, and those who hold different beliefs are not seen as simply wrong. Questions that to a dualist had a single answer now have multiple answers. At this level, students are unable adequately to evaluate alternative points of view, and they question the legitimacy of doing so. They assert that points of view or opinions are equally valid and therefore not subject to evaluation. After all, they might say, "Anyone has a right to an opinion, and you can't judge opinions."

Students who reason relativistically recognize that knowledge is contextual and relative. In multiplicity, the existence of different perspectives was simply acknowledged; in relativism, these perspectives are seen as pieces that fit together in a larger whole. At this level, students show the capacity for detachment. They seek the big picture, think analytically, and evaluate their own ideas and those of others.

In terms of teacher-student interactions, such styles have implications for the way information is taught. Most college students have a dualist orientation or weakly developed multiplist perspectives. Thus, they value concrete, specific, and less abstract presentations of information. In addition, because faculty tend to think in multiplist and relativist terms, dualist-oriented students believe faculty do not know very much. After all, how can they know anything if they do not have the right answers?

Observational Methods

The behaviors of students in a classroom can tell us a considerable amount about their learning styles. Such observations can be made by participant-observers and by audio- or videotape recordings of the interactions. The content of the observations can be analyzed and the underlying themes identified. One such approach was taken by Mann and his colleagues (1970). They audiotaped the interactions in classrooms and analyzed the content for the presence of consistent themes in the ways students dealt with teachers. A brief description of the learning styles they identified appears in Table 2.

In examining Mann's learning styles to prepare myself for discussing them in a series of workshops and seminars I was about to run, I was struck by the presence of three learning needs that underlie his typologies. One was a need for structure and dependency (as seen in the Compliant and Anxious-Dependent clusters); another was an independent orientation, or need to be away from the influence of others (as seen in the Independent, Hero, and Discouraged Worker clusters); the third was a need to have the attention of others, suggesting a somewhat cooperative orientation (as seen in the Attention Seeker).

Table 2

Learning Styles Identified by Mann and Colleagues

Compliant	Typical student of the traditional classroom. Conventional, trusting of authorities, willing to go along with what the teacher wants. Focuses on understanding material rather than criticizing it or formulating own ideas. Self-image is not well defined.
Anxious-Dependent	Concerned about what authorities think of him or her. Low self-esteem and doubtful of own intellectual abilities and competence. Anxious about exams and grades. Class comments hesitant and tentative.
Discouraged Worker	Intellectually involved but chronically depressed and personally distant. Afraid destructive impulses will lead him or her to hurt others.
Independent	Self-confident, interested, involved, tends to identify with teacher and to see teacher as a colleague. Has firmer self-image than students in the above three clusters.
Hero	Intelligent, creative, involved, introspective, struggling to establish identity, rebellious. Ambivalent toward teacher, erratic in performance.
Attention Seeker	Possesses a more social than intellectual orientation. Wants to be liked, to please others, to get good grades. Both self-esteem and control depend upon periodic reinforcement from others.
Silent Student	Speaks in class only when sure teacher will approve. Feels helpless, vulnerable, threatened in relation to teacher; fears engulfment by instructor but longs hopelessly for teacher's attention.
Sniper	Rebellious but more defensive and less creative than the Hero. Low self-esteem, afraid of introspection, attracted to authoritarian class structure. Uninvolved and indifferent toward class; stresses fact that course was required. In class, tends to lash out and then to withdraw quickly.

Given the three orientations, it is possible to design course goals that help students meet their objectives. One suggestion I have made in those seminars and workshops is for instructors to select their major goals for a course. The next step is to think of a way that each goal could be achieved with instructional processes that emphasize either dependence, independence, or cooperation among peers.

For example, one of my goals in introductory psychology is to have students describe the three parts of our personalities (the id, ego, and superego), as set forth by Freud. They could learn about the subject through a lecture (dependent orientation), by going to the library to search for descriptions of each part in books written about or by Freud (independent orientation), or by having a small group of peers read about Freud and share their learnings with each other (cooperative orientation). During a term, instructors might alternate ways in which they try to achieve various goals so that the three orientations are represented in the instructional processes employed.

Analyzing Learning Projects

In a delightful book, *The Adult's Learning Projects*, Tough (1979) identified what he called "learning projects," meaning the things adults did when they felt a need to learn something. Projects might include acquiring knowledge about interior design or learning how to use a computer, fix a leaky faucet, or play the piano, tennis, or golf. Tough's interest was in the types of things adults (those over age 21) want to learn and how they try to learn. The latter would provide information about their preferred ways of learning under conditions where they selected things to learn. Based on interviews with participants in his study, Tough claimed that adults were more self-directed as learners than teachers gave them credit for and that personal recognition and satisfaction were important motivators of that learning. He argued that such tendencies need to be taken into account in formal educational settings.

I was intrigued by his findings for two reasons. I suspected that (a) his findings were also applicable to younger students and (b) examining the ways people designed learning projects would be useful in acquiring information about their learning styles. The data could provide the basis for choosing certain classroom procedures over others.

I decided to test whether an analysis of learning projects could yield information about learning styles. To do so, I reviewed the small amount of literature on learning projects and, with what I already knew about self-directed learning, developed a learning projects checklist. I recruited a sample of 75 day and continuing education college students, ranging in age from 17 to 59, to complete the checklist.

To begin, they listed and described three important skills or domains of knowledge they learned on their own. Then they checked whether certain

Table 3

Naturalistic Styles Checklist: Summary of Data for Learning Projects

The data from a sample of 75 day and continuing education college students, ranging in age from 17 to 59, are presented below. To illustrate the principle components of their learning, the top-ranked items from each category on a learning projects checklist are shown. *Ties were counted as a single rank. Items are listed in the order in which they were ranked.* The percentage of the total sample that selected those items is also listed.

	Top-Ranked Items	Percentage of Total Sample That Chose the Items
Category of learning	Gained new knowledge/insight	71%
	Learned new skills	
	Enhanced existing skill	
	Worked on attitude change	
Hours spent	More than 100	75%
	Less than 7	
	Between 8 and 25	
Learning processes employed	Learned by doing	74%
	Asked a friend	
	Consulted an expert	
	Observed a model	
	Practiced physical skills	
	Read books/articles	
	Attended class/seminar	
Learning related to	Personal growth	83%
	Work	
	Leisure	
	Social life	
Motivated by	Enhancing personal growth	48%
	Wanting recognition	
	Curiosity/interest	
	Desire to be successful	
	Wanting to help others	
	Desire for more excitement	
Planned by	Self	79%
	Friend	
	Teacher	
	Written instructions	
Rewarded with	Self-satisfaction	83%
	Recognition by others	
	Grade	
	Certificate of completion	

	Top-Ranked Items	**Percentage of Total Sample That Chose the Items**
Risk required	Emotional Physical Psychological Financial	94%
Cognitive processes used	Thinking logically/rationally Analyzing information Using rules to guide thinking Creative thinking Trying to gain an in-depth understanding Memorizing information Thinking in concrete terms	69%
Ways of relating to other people	Acting independent Friendly Participating Cooperating	68%

Sample of self-descriptions: Individuals completing the checklist were asked to write a brief narrative to describe themselves. The statement below is how one of the participants described himself. In effect, a qualitative description of each person's learning style appears in the narrative. Participants were asked to review their responses and look for areas where they showed preferences (checking an item for at least two of the three learning activities they listed).

Learner 1: My learning activity seems to focus on gaining new and improved skills. I readily ask friends for help, read books for needed information, and actively practice the things I am trying to learn. I am motivated by curiosity and interest. I plan my activities, and the major reward is self-satisfaction. I am most at risk in the emotional sphere.

aspects of the ways people learn were components of the learning processes they used. After completing the checklist, the respondents wrote narratives describing themselves as learners based on what the checklist suggested about them. A summary of the data from this study appears in Table 3.

It is quite clear that adults' learning is self-directed and that they tend not to rely on taking a course in order to learn something. Their learning is primarily related to personal enrichment and to their work and is motivated by the desire to enhance personal growth, to receive recognition, and to satisfy their curiosity and interest. The primary rewards are not grades but self-satisfaction and recognition from others. An analysis of learning projects suggests a dimension to students' learning styles not revealed by traditional assessment instruments.

I have tried in several ways to acknowledge the implications of this data in the educational processes I control. One is the initiation of personal growth contracts for students in my department's social psychology graduate program, which I direct. Each student plans course work and other learning experiences with a committee of two faculty members and two advanced students. The plans become written contracts that are reviewed and modified as needed.

In my other courses, I now make one third of a student's course grade dependent upon a student-designed learning project related broadly to course content. For example, in my applied psychology class, students must find a social problem and work on solving it. They sign a contract with me stating what they will do and how they will evaluate their efforts. In my graduate seminar on teaching processes, students must identify an area of teaching they want to explore in detail and enter into a contract with me for learning opportunities that will help them achieve their goals.

Metaphors and Practical Poetry

One of the essential differences between creative problem solvers and those who are less creative is the use of metaphor (Grasha, 1987). By using metaphor, creative problem solvers can identify the elements of a problem and work on them in ways that are efficient, unusual, and appropriate for the task at hand. Indeed, many discoveries in science, technology, and other areas of daily life began with generating a metaphor.

Einstein, for example, remarked that before he could develop theoretical equations for his theory of relativity, he needed a visual image of the concept. Thus he imagined riding beams of light, surveying objects below him, and speculating on how observers from other vantage points might view the same event. Sonar was developed during World War II when naval researchers realized that a ship on the surface was vulnerable to submarine attacks because it was "blind as a bat." Bats, of course, locate their prey with sound waves, and thus the use of sound waves as an object detection device began. In sports, swimmers' times began to drop dramatically 20 years ago. At that time, the primary metaphor for a swimmer's movements was an oar pushing and pulling a boat. The metaphor then changed to the swimmer as an airplane with propellers that move it through the air. Thus strokes became much more graceful, with underwater hand movements that, to some extent, mimicked the motions of a propeller.

In general, metaphors tend to organize our thoughts and provide directions for our actions in a variety of settings (Lakoff & Johnson, 1980). I have labeled such metaphors "guiding metaphors," and they play an important role in understanding why certain teaching-learning processes are used (Grasha, 1987). In classroom settings, faculty tend to develop three metaphors about the teaching-learning process (Pollio, 1986). They are the *container* model (teacher fills students with knowledge), the *journey-guide* model (instructor leads students on a journey through the course), and the *master-disciple* model (master

Table 4A

Metaphor Evaluation of Effective and Ineffective Courses

The following is a summary of the words, images, feelings, and guiding metaphors students used to describe courses they considered effective and ineffective.

	Ineffective Courses	**Effective Courses**
Words	Repetitive, uninformative, did not meet expectations, boring, unintelligible, one-sided, confusing, challenging, hard to follow	Meaty, innovative, aggressive, creative, experiential, exciting, demanding, challenging, interesting, informative, different, integrated, complete
Images	Mafia, hookers, big business, death, skeletons, living in a foreign country, watching movie without sound, intimidated audience, jail	Basic training, wide-eyed child, small and friendly groups, dynamic interaction among people, summer island, actor on stage
Feelings	Bored, frustrated, lazy, confused, angry, wasteful, stupid, stressful, sad	Exhausted, anxious, stressed, relaxed, happy, excited, thoughtful, surprised, confident, expectant, hurried
Guiding Metaphors	Bicycle without wheels, train on a circular track going nowhere, foreign movie without subtitles and audience can't leave theater because doors are locked, Adolf Hitler talking and followers afraid to ask questions, trying to put together scattered pieces of a puzzle when someone keeps throwing new pieces at you	Basic training survival course, point at which three streams form one big river, survival trip into the wilderness on foot, travelers taking a pleasant trip back to place where they were born, explorers in a new land
Classroom Procedures	Lecture dwells on unimportant points, rambling style of presenting, talks over my head, lectures without ever asking for questions, tells students just to memorize material, lectures with back to class, belittles student questions, does not complete point being made, jumps from topic to topic in presentations, essay exams demand more back than teacher gives	Class projects are on real problems, course draws from previous courses, teacher reviews information, instructor and class work as a team, lectures relate material to local issues, uses lots of appropriate visual aids, lectures cover major issues and are packed with useful, well-organized information

Table 4B

Metaphor Enhancement of Effective and Ineffective Courses

The following is a summary of the words, images, feelings, and guiding metaphors students used to enhance the courses they considered effective and ineffective. Students were asked to add to those words, images, feelings, and guiding metaphors they identified when initially evaluating the class. The metaphors they used for what they wanted in their courses has important implications for the students' learning preferences and learning styles.

	Ineffective Courses	**Effective Courses**
Additional Words	Enlightening, challenging, exciting, real-life examples, diversity of information, participation, control, understanding, know-ledgeable	Supportive, more information, empathy with students, more student participation
Additional Images	Explorer discovering new lands, youths gathered around a wise, old person, relaxed audience and teacher, peace on earth	Survival, demigod, small groups around table at a perfect "happy hour," students have a bigger part in moving pieces of puzzle
Additional Feelings	Enriching, interesting, motivating, enjoyable, relaxed	Success, pressure
Changes in Guiding Metaphors	Downhill racer, wise person showing class how a puzzle comes traveling through a well-lighted tunnel, train heading toward specific destination	Basic training survival course with an end in sight, place where three streams meet one large, fast-moving river
Changes in Classroom Procedures	Instructor insures that students understand, shows concern for student needs, solicits questions, explains concepts clearly, uses personal experiences to make a point	More empathy from instructors for students struggling to understand difficult material, more time to learn information, more discussion of cause-effect relationships, more difficult quizzes
Summary Statement	Students want: clear structure and goals, material presented in an exciting manner that helps students piece together divergent and sometimes contradictory data in a field, personal challenges through questions and other activities to explore the everyday implications of the information, a relaxed classroom atmosphere in which the instructor guides, directs, and challenges students	Faster pace of instruction more challenging information, instructor takes time to insure that students are keeping up, small group processes used for discussion of information

drills students in relevant skills, and they become willing apprentices). Each model has advantages and disadvantages, but when employed, gives direction and purpose to the process.

Students also have metaphors for the teaching-learning process and their roles in it. In working with students, I have found that they are often very articulate about what their metaphors are. In a recent study, I asked different groups of students to develop guiding metaphors for classes they considered effective and ineffective. They completed the task in four stages. First, students listed the words, images, and feelings they had about those classes. Second, they developed a guiding metaphor to summarize the words, images, and feelings. Third, they listed specific classroom procedures associated with the metaphors they developed. Finally, students listed changes in the words, images, feelings, and guiding metaphors to reflect alterations they would like to see in their courses as well as the instructional implications of those changes.

The first two parts of the process use metaphors to evaluate the current status of a class. From the information given, an instructor can learn a lot about how a class is perceived. In the last part, students reveal through metaphors what their needs and preferences are as learners. In the process, they are stating something about their learning styles. A thematic analysis of this qualitative data enables a description of student learning styles expressed in their figurative language. A summary of the results of this process for 20 students (selected from a sample of 80 who participated) appears in Tables 4A and B.

Concluding Comments on Naturalistic Approaches

Thus far my examination of naturalistic approaches to learning styles suggests several things about their use in instructional processes. While the data are much more qualitative in nature than are the data from traditional approaches, they provide useful insights into the thoughts and behaviors of students. Indeed, the descriptions they provide are much richer and suggest a depth to student behavior that is largely undetectable with traditional measurement techniques. Some methods of gathering data such as observational and interview procedures are, however, much more time consuming than are traditional methods. Others, like the learning projects and metaphor tasks, take less time but demand that the instructor perform a thematic analysis of what is largely qualitative information. For those unaccustomed to making such clinical judgments, or who like to rely on more quantitative approaches with standardized procedures and test norms, the task can be somewhat uncomfortable.

In the final analysis, both traditional and naturalistic approaches are useful. What counts is that people use them in the spirit of learning more about their teaching and how to better meet the needs of the learners they serve. Just as there are different learning styles, I suspect that there are also different preferences as to how to measure them. At a recent workshop where both approaches were presented, I asked participants to indicate which one they most preferred. Most liked the naturalistic methods, but 30% were inclined to stick with traditional methods. The underlying factor that explains such preferences may be whether or not one tends to be a right or left brain thinker. Naturalistic approaches tend to rely on making qualitative and somewhat intuitive judgments and do not necessarily rely as much on what have been described as left brain capabilities, that is, the use of orderly and logical thought processes.

References

Boring, E. G. (1950). *A history of experimental psychology* (2nd ed.). New York: Appleton-Century Crofts.

Curry, L. (1983). *Learning style in continuing medical education.* Halifax, Nova Scotia: Council on Continuing Medical Education, Dalhousie University.

Fuhrmann, B. S., & Grasha, A. F. (1983). *A practical handbook for college teachers.* Boston: Little-Brown.

Grasha, A. F. (1984). The journey from Greenwich Observatory (1796) to the college classroom (1984). *Improving College and University Teaching, 32,* 46-53.

Grasha, A. F. (1987). *The WIF metaphor generation process in curriculum evaluation* (Research Report). Cincinnati: Institute for Consultation and Training, University of Cincinnati.

Keefe, J. (1982). *Student learning styles and brain behavior.* Reston, VA: NASSP.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by.* Chicago: University of Chicago Press.

Mann, R. D., Ringwald, B. E., Arnold, S., Binder, J., Cytrynbaum, S., & Rosenwein, J. W. (1970). *Conflict and style in the college classroom.* New York: Wiley.

Perry, W. G., Jr. (1970). *Forms of intellectual and ethical development in the college years.* New York: Holt, Rinehart and Winston.

Pollio, H. (1986). *Practical poetry: Metaphoric thinking in science, art, literature and nearly everywhere else.* Knoxville, TN: University of Tennessee Learning Research Center.

Tough, A. (1979). *The adult's learning projects.* Austin, TX: Learning Concepts.

Campbell, D.E., & Davis, C.L. (1990). Improving learning by combining critical thinking skills with psychological type. *Journal on Excellence in College Teaching, 1,* 39-51.

Improving Learning by Combining Critical Thinking Skills With Psychological Type

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For years educators have struggled with theories and methods toward improving the learning process. The search continues for reliable means to determine how learners learn and what are the most effective ways to meet those learning needs. Fredericksen (1984) noted that the task of education through all levels is to improve knowledge and to develop cognitive skills. He suggested that, among the cognitive skills needing improvement, problem solving is one of the most important. We agree.

Problem solving, or skills in perception and judgment which lead to problem solving, are particularly important to the attainment of so-called higher order thinking skills. These skills, or critical thinking skills as they are sometimes called, involve the ability to analyze, synthesize, and evaluate information. The quest to develop these skills among learners has become a number one priority of education (Baron & Sternberg, 1987).

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The Concept of Critical Thinking

Campbell and Macey (1988) noted that a commonly accepted definition of critical thinking is elusive. They point out that critical thinking is not easily defined, as it is used synonymously with and engenders much of associated terms such as problem solving, analytical reasoning, creative thinking, and analysis. They contend critical thinking refers to "one's openness to maintain a close examination of problems and circumstances . . . necessary to evaluate the pros and cons of the issue or alternatives. It refers to a form of evaluation and judgment free of bias and interference."

Robert Ennis, a leading authority on critical thinking, suggests one must have both the proper inclinations or dispositions to think critically. Ennis (1987) suggests that there are specific areas of critical thinking that one can learn and/or strengthen. However, having the "right attitude" about using critical thinking to improve oneself intellectually will not suffice. Abilities to think critically must also be improved (De Bono, 1970; Lawrence, 1984; Myers, 1979).

In terms of learning, critical thinking may be viewed as an active, persistent, internal process, during which one carefully evaluates information in a systematic and objective manner. This view suggests that critical thinking is heuristic and cognitive, that is, it is a self-directed and internal activity rather than a formal problem-solving process. Critical thinking is something one does in advance of taking action. This definition has immense importance when the notions of cognitive preferences are addressed later in this article.

Research Premise

We believe that learning, and the shift toward thinking critically, might be enhanced if learners' individual preferences are diagnostically evaluated through an analysis of psychological type. Once individual learning preferences are identified, these preferences could be integrated with appropriate teaching methods to improve higher order thinking skills.

The task, then, includes identifying learners' preferred cognitive strategies, determining which learning approaches are preferred by those learners, and presenting learning opportunities designed to improve critical thinking skills. Improvement can be achieved by a combination of matching learners' preferences *and* stretching learners toward developing the nonpreferred cognitive strategies.

The Myers-Briggs Type Indicator (MBTI)

One instrument theory that has gained wide acceptance for evaluating individual preferences is the Myers-Briggs Type Indicator (MBTI). The MBTI is based upon the work of the Swiss psychologist Jung, who discovered that one's psychological type determines and limits one's judgment and establishes one's relationship to the world (McCaulley, 1976). Leading researchers such as Myers (1962, 1979, 1980), Lawrence (1982, 1984), Keirsey and Bates (1978), and McCaulley (1976) have helped to establish a base of knowledge and application of type theory to educational settings.

The MBTI is currently one of the most popular diagnostic assessment instruments in the United States. It is adaptable to individuals or groups; can be computer or hand scored; is untimed, nonthreatening, and nonpathological. The Indicator uses an easy to follow vocabulary, has an abundant research base, and has acceptable validity and reliability measures (Campbell, 1986a). As of this writing, more than 1,100 dissertations, theses, books, and journal articles have been published on the MBTI. The instrument appears to be of utility in diverse areas such as education, religious issues, psychological aspects, counseling, and management and organizational behavior.

MBTI theory is built upon four precise dimensions, each containing two distinct opposites with contrasting preferences. For the purposes of this article, they are referred to as learning preferences and defined as ways and methods used to interact based upon experience and trust. The preferences represent one's greatest learning strengths (Sewell, 1986). The four dimensions of the Indicator are depicted in Figure 1.

The first dimension, orientation toward information and idea generation, is concerned with one's direction toward information and ideas. Dimensions two and three include how information or ideas are processed through the mental functions of perception and judgment. The fourth dimension measures how the processed information or ideas are dispersed into the environment. While all four dimensions are important to developing higher order thinking skills, dimensions two and three are particularly important to ascertain whether critical thinking skills have become incorporated into one's cognitive strategy to process information.

Each dimension of the four measurement scales contains distinct and polar opposites of contrasting preferences. While learners possess all of the qualities inherent in each dimension, one particular set or combination becomes most preferred. The combinations result in 16 type possibilities:

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Thus the description for a person such as an ESTJ highlights the preference for generating information and ideas in the outer world of activity and actions (Extraversion), perceiving observable facts and details (Sensing), deciding or judging those perceptions through logic and analytical and objective reasoning

(*Thinking*), and living in the outer world in an organized, planned, controlled fashion (*Judgment*) (Campbell, 1986a).

Figure 1

Measurement Areas of the MBTI

Orientation Toward Information/Idea Generation

Extraversion (E): Outer world of activity and action
Introversion (I): Inner world of reflection and contemplation

Perception of Information or Ideas

Sensing (S): Observable facts and details
Intuition (N): Insight of meanings and relationships

Judgment or Decision Making

Thinking (T): Conclusions via logic, analysis, and objective reasoning
Feeling (F): Decisions based on subjectivity, human values, and what is personally important

Orientation to Environment

Judgment (J): Desire for organization, plans, control, and closure
Perception (P): Curious, open, receptive, flexible, and adaptive

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Type Theory and Learning

The fundamental idea of type is that what seems as chance variation in human behavior occurs not by chance but by observable differences in mental functioning. These basic differences stem from the way learners prefer to use their minds, that is, how information is generated, perceived, judged, and used. Since the functions of perceiving and judging information account for the largest portion of one's mental activity and thus govern behavior, we believe a key to effective learning can be provided once these perceptions and judgments are known.

Research provides conclusive evidence that specific preferences and characteristics are associated with the MBTI preferences. The discovery of different learning preferences reinforces the contention that a variety of learning opportunities—both preferred and nonpreferred—are appropriate to meet the task of education. Figure 2 depicts the preferences associated with the eight dimensions of type theory.

Figure 2

Learning Preferences Associated With the MBTI

Extraversion	**Introversion**
Talking and discussion	Reading/verbal reasoning
Psychomotor activity	Time for internal processing
Group activities	Individual work
Sensing	**Intuition**
Tasks calling for carefulness, thoroughness, and sound understanding	Tasks calling for quickness of insight and seeing relationships
Linear processing of routine	Global, finding new ways
Specifics	Concepts
Thinking	**Feeling**
Objective material	Personal relationships
Logical organization of teacher	Personal rapport with teacher
Rules, laws, and procedures	Harmony, empathy, and balance
Judgment	**Perception**
Structure and order	Flexible and adaptive
Formal instruction methods	Informal problem solving
Directed	Autonomous

Psychological Type and Learning Research

Teachers frequently comment that learners in one particular class or course seem different from those in other courses. They also express concern that some established teaching strategies are more or less appropriate for these differing groups. It seems natural that as learners are grouped, they also take on a "personality" or distinguishing characteristics about their preferred learning approaches.

Over the past few years, several research efforts have used the MBTI to determine personality differences of learners attending the Air Force Institute of Technology, a graduate and professional education school of the Department of Defense. Table 1 shows the type frequency and percentage of those learners surveyed by Campbell (1985, 1986). The table reflects the differences in learning personality, in particular the near 31% ISTJ and 58% ST distribution of learners. Table 2 lists typical learning characteristics associated with the most frequent learner type, the ISTJ, as suggested by Morgan in Lawrence (1982), Keirsey and Bates (1978), and Lawrence (1982).

Table 1

Learner Type Distribution
(Frequency/Percentage)

N = 1,730

ISTJ 530/30.6%	**ISFJ** 110/6.4%	**INFJ** 15/0.9%	**INTJ** 140/8.1%
ISTP 124/7.2%	**ISFP** 45/2.6%	**INFP** 42/2.4%	**INTP** 99/5.7%
ESTP 58/3.4%	**ESFP** 16/0.9%	**ENFP** 26/1.5%	**ENTP** 61/3.5%
ESTJ 285/16.5%	**ESFJ** 43/2.5%	**ENFJ** 23/1.3%	**ENTJ** 113/6.5%

E: 625/36.1%	**S:** 1,211/70%	**T:** 1,410/81.5%	**J:** 1,259/72.8%
I: 1,105/63.9%	**N:** 519/30%	**F:** 320/18.5%	**P:** 471/27.2%
	ST: 997/57.6%	**NF:** 106/ 6.1%	
	SF: 214/12.4%	**NT:** 413/23.9%	

At this point we emphasize that the ISTJ and ST sets are used to demonstrate the contention of class modal personality and the unique characteristics associated with these sets, and to lead the reader toward the notion of matching preferred learning needs while also stimulating the nonpreferred or undeveloped learning needs. It is clear that ISTJs and STs do not populate all classrooms equally. Course subject matter, level of learning and teaching, and a host of other variables influence the psychological profile of each classroom.

ISTJ learners, the most common type in this research, tend to be analytical, fact minded, dependable, persevering, thorough, able to handle difficult and detailed figures, practical organizers, and managers of details and systems. These learners are reflective rather than active. In addition, they tend to be impulsive and to prefer deadlines and closure. They seem more comfortable with lectures, labs, and demonstrations, while showing less comfort with student-led presentations.

Logically, specific learning opportunities conducive to ISTJ learning preferences seem appropriate. It is also logical to present other learning situations calling for the ISTJ (as well as other types in the class) to use and develop less preferred learning approaches. One real-world problem learners must address is that life does not always present itself in one's favored way.

Thus posing problems that may be best solved through nonpreferred approaches enhances critical thinking skill and ability.

Table 2

Learning Characteristics Associated With ISTJ Learners

1. Works easily alone (I)
2. Likes lectures (I)
3. Likes direct experiences (S)
4. Likes audiovisuals (S)
5. Prefers well-defined goals (S)
6. Prefers practical tests (S)
7. Needs to know why before doing (S)
8. Is a linear learner with a strong need for order (SJ)
9. Wants logically structured, efficient materials (IT)

Source: Morgan (1982)

Relating the MBTI to Critical Thinking

So far we have addressed the task of education as improving knowledge and developing learners' ability to think. We have suggested that a way of meeting this task can be found in the concepts of critical thinking and psychological type. We have demonstrated that research attributes certain learning characteristics to specific psychological types. Further, we have argued that knowing learners' preferences for certain cognitive strategies permits development of more reliable approaches to improving learning, thinking, and knowledge. What about the central issue of identifying which specific approaches might be developed? In isolating these approaches, we suggest there are distinctions between them because of differences in psychological type.

The Key to Thinking Critically: The Cognitive Functions

Cognition is defined as the action of intellect—the ability to learn and to reason, a capacity for knowledge and understanding. It is comprised of a number of distinct aspects such as accrual of stimuli, sorting, memory, language, thinking, reasoning, and numerous other discrete mental functions (Sanford, 1985). For the purposes of this article, we have separated these functions into two categories termed perception and judgment. Further, we have applied the Type Indicator measurements of these categories to emphasize more precise categories of *S*ensing and i*N*tuitive perception and *T*hinking and *F*eeling judgments.

Order of Cognitive Preference

The key to developing a learner's ability to think critically is found in the order of the learner's preferences in perception and judgment. That is, learners develop (or prefer) the four possibilities of perception and judgment in some rank order. Learners use all mental processes identified by the Indicator—S, N, T, or F. However, type theory holds that a particular set or order of development occurs with each of the 16 types. Further, the development of one dimension causes the opposite in the dichotomous pair to become less preferred or undeveloped. For example, as a learner develops a preference for sensing perception, the preference for intuitive perception becomes less preferred. The same is true for judgment, between thinking and feeling. The key to developing a learner's ability to think critically is held by the order of the learner's preference for sensing, intuition, thinking, and feeling.

The function developed in the first order of preference is termed *dominant*. The second is called *auxiliary*; the third *tertiary*; and the fourth is called *inferior* or *least preferred*. In this article, we will discuss the relevance of only the dominant and inferior functions.

The matter of development is further ordered by one's preference for extraversion and introversion. That is, the preferred way of generating information and ideas (the E-I scale measurement) determines the direction of the order. For extraverts, the dominant function is extraverted. Extraverts are active, outgoing engagers of the environment. Conversely, for introverts the dominant function is introverted. They are directed inward to the world of contemplation and thought. The dominant functions for the 16 types are highlighted as extraverted or introverted in the following type table:

*IS*TJ	*IS*FJ	*IN*FJ	*IN*TJ
*I*S*T*P	*I*S*F*P	*I*N*F*P	*I*N*T*P
*ES*TP	*ES*FP	*EN*FP	*EN*TP
*E*S*T*J	*E*S*F*J	*E*N*F*J	*E*N*T*J

For example, *IS* learners have developed their sensing preferences in an introverted fashion. As introverts, their inner world of thoughts and ideas directs their dominant function. They engage their mental processes in quiet, reflective, pondering ways. As sensors, they prefer to perceive facts, details, and things as they are or should be, in sequence, experientially based, and in pragmatic terms. It is reasonable to expect *IS* learners to be uncomfortable in circumstances calling for intuitive perception. In fact, they might be expected to avoid dealing in abstract, complex, ambiguous issues, and with concepts and ideas involving the big picture. Rather, they find attraction in known facts and issues, sort things into definable terms, and determine concrete applications in step-by-step, manageable portions. All of this occurs internally as their mind processes the data and is influenced by their dominant function.

Learning Opportunities for Cognitive Development

It is clear that certain dominant types prefer to perceive and judge in ways different from others. It should also be clear that teaching may be improved by emphasizing learners' dominant ways of perceiving and judging. Employing teaching strategies that appeal more to the inferior or least preferred function—unless consciously done specifically to develop the inferior function—increases the risk of ineffective learning.

So, what kinds of strategies would we offer to teach higher order thinking skills to a group of learners who are, as in the research sample, predominantly typed as ISTJ?

ISTJs possess what Ennis (1987) calls a "disposition" for learning critical thinking skills and the "elementary clarification" abilities of critical thinking. They have reasonable abilities at focusing on questions and analyzing arguments. However, they need practice in withholding their judgment to allow for better assessment of the credibility of sources. Because their intuition is less developed, they benefit from practice in projecting their perception into the complex, ambiguous areas of thinking.

As introverts, ISTJs need work on interacting with others through the use of techniques such as brainstorming and group processes. As dominant sensors, they can improve their critical thinking skills by practicing dialogical thinking, as in deductive exercises. As thinkers, to strengthen their subjective judgment, they should seek out and consider others' personal values and feelings while suspending their own. Because they are also judgers, they tend to prefer clearly organized, somewhat rigid plans and work. The tendency toward deadlines and closure might lead to impulsiveness.

The major effort in improving their critical thinking skills should be directed at strengthening their sensing perception while developing their intuitive perception. This calls for seeking new ideas and thoughts while withholding judment. According to Campbell (1986b), success may be achieved by employing a battery of approaches such as one-on-one and individual projects and activities; presenting facts in a sequential manner; seeking answers to why and what if questions; generating and manipulating a variety of ideas and concepts; relating experiences to learner senses; using logic and analytical reasoning; investigating the meaning of data and searching beyond the facts for implications; relating to objective data; and requiring structure in learning situations.

As a reminder, these examples of learning opportunities were posed to develop the ability to think critically for the ISTJ—the predominant type found in the research sample. These opportunities may be viewed, for the most part, as opposite to the ISTJ's preferred learning approaches. The opportunities emphasize developing interaction beyond self; withholding judgment and the drive for closure to explore concepts, ideas, and relationships; and blending the subjective factors of personal value and empathy into logic and reasoning.

Implications and Conclusions

We have reviewed the concepts of critical thinking and psychological type and suggested that the key to empowering learners to think critically is found in their preferred ways of perceiving and judging. Further, we have argued that developing learning opportunities to accommodate and to stretch learning preferences can best meet the task of education. We conclude by noting three implications when the concepts of critical thinking and psychological type are combined.

Implications for Learners

Learners pursue education for a wide variety of reasons and purposes—to acquire greater knowledge, to improve skills, or to better themselves. The concept of psychological type establishes each learner's similar and unique preferences for learning approaches. The identification makes learners aware of strengths and weaknesses and helps chart a path toward developing new approaches. Learners knowing their preferred and nonpreferred approaches to learning have the advantage of reinforcing their strengths, while preparing for difficulties.

Skills in thinking critically can be improved when the dynamics of learners' dominant and inferior functions are incorporated in learning opportunities. Matching learning objectives to learner cognitive skills and abilities seems more likely. Matches and mismatches signal the need of special approaches and possible outcomes. Learners are more likely to understand and to seek those learning situations they identify with or in which they feel most comfortable. Learners must verify their preferred and nonpreferred learning approaches. Armed with that knowledge, learners can assume some of the responsibility for effective learning and critical thinking.

Implications for Teachers

It is the nature of teaching to increase learners' knowledge and to expand their approaches toward learning. Educators strive to teach higher order thinking skills and to strengthen learners' underdeveloped skills. Knowing learner preferences affords the advantage of structuring methods, techniques, and devices to maximize learning, while also trying to develop weak areas of learning.

We do not suggest carte blanche adoption of the techniques and methods desired by the learning majority. Clearly, not all types are present or evenly distributed in our classrooms. It does, however, seem reasonable to follow patterns of learner preference. There is some credit in teaching to the masses—the modal type—yet offering others a menu of learning opportunities structured for them. Providing a menu improves the chances of appealing to preferences of underrepresented learner types. It also presents challenges for the modal type learners. The challenges offer these learners opportunities to stretch and develop other learning approaches—their inferior preferences.

Keying on learners' cognitive preferences leaves the task of teaching learners to think critically less to chance. If a learner's dominant strength lies in sensing perception and the learning objective involves developing intuitive perception, then those strategies that must be developed to meet the learning objectives become more clear. Without the key, learning effectiveness is suspect.

Awareness of learners' personality types helps identify those teaching/learning strategies best suited to develop higher order thinking skills. Matching individual learning preferences with selected teaching strategies makes learning more effective. Learning may be further improved when learners' dominant cognitive functions are addressed.

Impacts on Learning Systems

In addition to packaging and offering learning opportunities, the notion of psychological type raises several important concerns about how learning is evaluated and administered. The suggestions herein also call for a wider range of educational reform. The issue of tests measuring not knowledge or learning but skill in test taking assumes new dimensions when cognitive skills are considered. If tests were developed for different learner psychological types, would the measurements be more accurate? Or, as some would argue, are tests in themselves a learning experience, and should they therefore be used to match some learners and to stretch others?

What about the ways learners are administered? Orientations, dormitories, study carrels, guidance and counseling services, student activities, the design and availability of campus facilities, and such, may have tremendous impact on learners' openness to learn stemming from psychological type. Incorporating type theory into administration seems necessary to support the acquisition of knowledge and thinking skills.

The quest to improve the learning process seems endless. However, the possibility of improved learning is much closer in reality. That reality brightens when learning opportunities are structured upon learner psychological dispositions and the concepts of critical thinking.

Learning how to think critically rests not only upon inclination and disposition, but upon ability. It is here, at this crucial point of ability, that identifying the order of learners' cognitive strategies—perception and judgment—becomes key. The ability to think critically can be enhanced by using learning opportunities that match learner cognitive profiles, thus reinforcing preferred approaches and developing the nonpreferred.

References

Baron, J., & Sternberg, R. (Eds.). (1987). *Teaching thinking skills: Theory and practice.* New York: W. H. Freeman.

Bloom, B. S., et al. (Eds.). (1956). *Taxonomy of educational objectives handbook I: Cognitive domain.* New York: David McKay.

Campbell, D. E. (1985, February). An analysis of adult learning styles using the Myers-Briggs Type Indicator. *Proceedings of the Lifelong Learning Research Conference* (pp. 125-129). University of Maryland.

Campbell, D. E. (1986). *Adult learners' changes and adaptations of learning methods, techniques, and devices by psychological type.* Ann Arbor, MI: University Microfilms.

Campbell, D. E. (1986, March). Helping learners learn: A study of learning preferences, teaching styles, and learning systems. *Proceedings of the 1986 Air Force Conference on Technology in Training and Education, II,* 30-45. Montgomery, AL.

Campbell, D. E., & Macey, J. R. (1988, March). Critical thinking: Its relationship in education and training. *Proceedings of the 1988 Conference on Technology in Training and Education* (pp. 634-649). Biloxi, MS.

De Bono, E. (1970). *Lateral thinking.* New York: Harper & Row.

Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. In Baron, J., & Sternberg, R. (Eds.), *Teaching thinking skills: Theory and practice.* New York: W. H. Freeman.

Fredericksen, N. (1984). Implications of cognitive theory for instruction in problem solving. *Review of Educational Research, 54*, 363-407.

Keirsey, D., & Bates, M. (1978). *Please understand me*. Del Mar, CA: Prometheus Nemesis Books.

Lawrence, G. (Ed.). (1982). *People types and tiger stripes*. Gainesville, FL: Center for Application of Psychological Type.

Lawrence, G. (1984). A synthesis of learning style research involving the MBTI. *Journal of Psychological Type, 8*.

McCaulley, M. H. (1976). *The Myers-Briggs Type Indicator and the teaching-learning process*. Gainesville, FL: Center for Application of Psychological Type.

Morgan, M. (1982). Relating type to instructional strategies. In G. Lawrence (Ed.), *People types and tiger stripes* (p. 53). Gainesville, FL: Center for Application of Psychological Type.

Myers, I. (1962). *The Myers-Briggs Type Indicator Manual, 1962*. Palo Alto, CA: Consulting Psychologists Press.

Myers, I. (1979). *Type and teamwork*. Gainesville, FL: Center for Application of Psychological Type.

Myers, I. (1980). *Gifts differing*. Palo Alto, CA: Consulting Psychologists Press.

Nickerson, R. S. (1987). Why teach thinking? In J. Baron & R. Sternberg (Eds.), *Teaching thinking skills: Theory and practice*. New York: W. H. Freeman.

Ruggiero, V. R. (1984). *The art of thinking: A guide to critical and creative thought*. New York: Harper & Row.

Sanford, A. J. (1985). *Cognition and cognitive psychology*. New York: Basic Books.

Sewell, T. J. (1986). *The measurement of learning styles: A critique of four assessment tools*. Green Bay, WI: Wisconsin Assessment Center, University of Wisconsin Green Bay.

Swartz, R. J. (1987). Teaching for thinking: A developmental model for the infusion of thinking skills into mainstream instruction. In J. Baron & R. Sternberg (Eds.), *Teaching thinking skills: Theory and practice*. New York: W. H. Freeman.

Yinger, R. (1980). Can we teach them to think? In R. Young (Ed.), *New directions for teaching and learning* (pp. 11-30). San Francisco: Jossey-Bass.

Clinchy, B.M. (1990). Issues of gender in teaching and learning.
Journal on Excellence in College Teaching, 1, 52-67.

Issues of Gender in Teaching and Learning

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When I ask myself—Does gender matter in college teaching and learning?—I come up with two mutually contradictory answers. One is, I don't know. The other is yes. Because it's hard to frame an argument around two contradictory propositions, I shall tell you a story instead of presenting an argument. In stories, conflicts and contradictions are allowable and even desirable. The story I'd like to tell is about the ways in which my thinking about gender and teaching and learning has evolved over the years.

The Wellesley Study

I first chose to study women not because I was especially interested in them, but because they were there. I *was* concerned about learning—more precisely, my students' failure to learn—and, because I was and am teaching at a women's college, my students happened to be women.

At the time, I was team teaching an introductory psychology course with my friend and colleague, Claire Zimmerman. Because the class was large, usually between 150 and 200 students, we were forced to do most of our teaching in lectures, a style uncomfortably close to what the revolutionary educator Freire called "the banking model" (1974, p. 63). In the banking model, the teacher deposits information in the students' heads, and the students' task is to store the deposits.

This article is based on an address given at the Eighth Annual Lilly Conference on College Teaching, November 4-6, 1988, Miami University, Oxford, Ohio. Because all the research on which this paper is based has been collaborative, my colleagues have been as involved as I in the evolution of the thoughts expressed here (although no doubt they would disagree with some of them). I am especially indebted to Claire Zimmerman, and also to Mary Belenky, Nancy Goldberger, Jill Tarule, and Annick Mansfield.

Blythe McVicker Clinchy *is professor of psychology at Wellesley College, where she teaches courses in research methodology and in child and adult development. Her research concerns the development of "natural epistemology," the evolution of conceptions of truth and value, from early childhood through adulthood. She is interested in the implications of this development for the practice of education from nursery school through college.*

The banking image may be too mechanical to capture this process. The women students we've talked with tend to use biological metaphors. They speak of teachers "spoon feeding" information into them, which they "regurgitate" on exams or convert into "bullshit" papers. Perhaps the biological model captures the reality more accurately than does the mechanical model, because it involves transformation; what comes out is not exactly what went in.

It became obvious to Claire and me that this was the case in Psychology 101. What came out of the students in papers and exams was distressingly discrepant from what we thought we had deposited. Because we were both cognitive psychologists, we proceeded to intellectualize our frustration by studying the transformations the students made. We began to collect examples of these transformations. We called them "common errors." Notice that the term "error" implies that we said it right and they got it wrong. As teachers so often do, we blamed the victim.

As time went on, we began to see that these errors were systematic transformations that were not idiosyncratic but common to many students. For example, we learned that when the lecturer mentioned a possibility or made a qualified statement (e.g., "Freud may have come to this conception of anxiety because . . ." or "Freud based his concept of anxiety partly on . . ."), many students, in their exams, converted the statement into an absolute ("Freud came to this view because . . ." or "Freud based his concept of anxiety . . ."). Another example most teachers will recognize is that when we asked students, on an exam, to compare and contrast two perspectives, they gave us two discrete lists. If we asked them to compare and contrast Freud's and Piaget's conceptions of children's play, they gave us Freud's view, then Piaget's view. Period.

Claire and I noticed that students in our upper-level courses rarely made these errors. Because we were both interested in cognitive development, we wondered whether we might be looking at a developmental phenomenon. Perhaps the younger students were filtering the lecturer's words through cognitive structures different from ours and from those of the older students. That is, perhaps in the course of the college years, students changed not only in the amount they knew (the content of their knowledge), but also in their ways of knowing (their cognitive structures). This possibility seemed remote, because we had been taught in graduate school that qualitative changes in ways of knowing (as opposed to quantitative increments in amount of knowledge) ended in early adolescence.

The Work of Perry

It was at this point that Claire came upon Perry's book, *Forms of Intellectual and Ethical Development in the College Years* (1968/1970). Perry was not trained in cognitive-developmental theory. Although he was and is a gifted counselor and teacher of counselors, his only advanced degree was a master's in English literature, so he didn't realize that no qualitative changes in thinking could occur in the college years. It seemed to him, just listening to students as they came in for counseling year after year, that they did change. So the poor fellow, relying on his own experience rather than cognitive-developmental dogma, just blundered his way into a developmental study.

He and his associates interviewed samples of Harvard undergraduates (140 in all) repeatedly each year across their four years at the college. Since Perry was not trained in psychological research methodology, his interview technique was elegantly simple. After explaining that he was interested in the students' experiences at Harvard, he asked just one standard question, "Why don't you start with whatever stands out for you about the year?" (Some of my more ardently feminist colleagues regard this questions as phallic and prefer to ask, in their interviews, "What stays with you about the year?") The interviewer then simply listened carefully, inviting the students to clarify their comments and elaborate upon them.

On the basis of the students' responses, Perry constructed a scheme tracing the development of what psychologists would now call "naive" or "natural" or "vernacular" epistemology. Perry's scheme defines a sequence of moves through a series of positions from which students view the world of knowledge, truth, and value. The scheme begins with a position he calls "dualism." Dualists are absolutists; they assume that there is one right answer to every question, and they see the world in terms of black and white, right and wrong, true and false. At the next position, "multiplicity," gray areas appear, and there are no absolute right answers. Truth is personal and private, there are as many truths as there are persons, all opinions are equally valid, and everyone is his or her own authority and has a right to his or her own opinion. Ultimately, one comes to the next position and sees that some opinions are better than others and that truth is "contextual," that is, the meaning of a phenomenon depends upon the context in which it is embedded and upon the perspective from which it is viewed.

Perry's scheme seemed to offer a way of conceptualizing our informal observations, so we decided to launch our own longitudinal study at Wellesley. Our main goal at the start of this work was to fill in Perry's scheme. He had given us a schematic, sketchy outline of development; we wanted to flesh it out, to elaborate and articulate it in richer detail. We saw ourselves as Perry's helpers. He had generated the really important ideas; we were just sort of tidying up after him. Gender was not a central concern. In a request for funding the project, we did propose to test the applicability of the scheme to a female sample. But our hearts really weren't in this proposal; we were confident that it *was* applicable.

Perry himself had already dismissed the issue of gender. Included in his sample of 140 were 28 women, or 20% of the sample. However, in a passage early in his book, a passage I hardly noticed at the time, but which now seems to me remarkable, Perry wrote, "With the few exceptions which will be noted, the illustrations and validations in this study will draw on the reports of the men " (1968/1970, p. 16). With few exceptions, then, the voices of the women students were excluded from Perry's account of forms of intellectual and ethical development in the college years. This is just one of many instances in which, as Gilligan (1982) pointed out, women have been systematically excluded from the stage of theory building in developmental psychology. Nearly always the investigator has been male, and all or nearly all of his informants have been male, yet the theories that emerge from these studies are assumed to apply to all human beings, regardless of gender (or class or race, or even national origin). Perry's book is not called "Forms of Intellectual and Ethical Development in College Men"; it is called "Forms of Intellectual and Ethical Development in the College Years."

Perry could reply, however, that he was justified in dismissing the issue of gender. In an attempt to establish the reliability of rating the students' interviews for position, Perry assembled a group of judges and asked them to rate 20 cases of four-year sequences, using the scheme. Included among the 20 were 2 women. (Note that the percentage of women has now dropped from 20% to 10%.) Perry reports that although "the judges engaged in a lively discussion of the differences between men and women" (1968/1970, p. 16), they concluded that these were differences in content rather than structure. It is not clear what Perry means by this distinction. Minimally, he seems to mean that while the women's interviews (note, only two sets of interviews) may have sounded different, they could be coded for position as easily as the men's. The scheme, then, could be seen as gender-fair or gender-blind.

At first, Claire and I reached much the same conclusion in coding our own data. We were able to place nearly all of the women in terms of the scheme, and we observed in most of the women a regular progression, in small steps, across the four years. I say "nearly all" and "most of" the women. In one corner of my office there accumulated an ugly pile of transcripts—we called them "anomalies"—that refused to be wedged into the scheme. What they had to say just didn't seem relevant. So we left them out.

On the whole, however, most of the Wellesley women seemed to move smoothly through dualism and multiplicity into a position Perry called "relativism subordinate." At this position, the student learns that her professors want her neither to accept as truth anything an authority says *nor* to treat all opinions as equally valid, but to adopt an analytical, critical approach, using the tools of the discipline to interpet and evaluate the material she is studying. Most of the Wellesley women caught on to this approach. They learned to construct complex, contextual arguments and interpretations, marshalling evidence to support their views. They learned to compare and contrast interpretations. They learned that this was the kind of thinking the professors wanted, and they learned how to deliver it.

So far, the women looked to us like Perry's men. But then things seemed to go wrong. According to Perry, the student sees critical thinking at first as merely an academic exercise and practices these skills only to survive the system, to get good grades. But gradually, through some mysterious, unarticulated process, the student comes to realize that this kind of complex, critical thinking is not just a procedure that professors make you use to solve academic problems. And it is not just the way They—uppercase T, denoting Authority—want you to think; it's the way they—dethroned to lowercase t—think too. The students and their teachers now become colleagues. The President of Harvard welcomes you to the community of scholars, and *you* become one of *them*. "The irony," Perry says, "is that in merely trying to conform, the student becomes an independent thinker."

This happy ending occurred for too few of our students, only about half of the seniors we interviewed. The others learned to conform, all right, but they did not become independent thinkers. They remained frozen in a schoolgirl mode, performing the cognitive tasks they were ordered to perform, often with considerable skill, but without joy or conviction and sometimes, ultimately, with despair.[1]

In *Women's Ways of Knowing* (Belenky, Clinchy, Goldberger, & Tarule, 1986), we tell the stories of some of these women. For example, Simone[2], nominated by the science faculty at her college as the best student of her year, told us that she could write "good papers" when she tried. By good papers, she meant papers that teachers liked. Simone, herself, didn't like them much. She says:

> I can write a good paper, and someday I may learn to write one that I like, that is not just bullshit, but I still feel that it's somewhat pointless. I do it, and I get my grade, but it hasn't proved anything to me. The problem is that I don't feel terribly strongly about one point of view, but that point of view seems to make more sense. It's easier to write the paper supporting that point of view than the other one, because there's more to support it. And it's not one of my deep-founded beliefs, but it writes the paper. (p. 110)

Simone doesn't write the paper. "It" writes the paper. The voice that speaks in these good papers is not Simone's. Whose voice is it?

A sophomore we call Katie refers to this voice as the "should-voice." In a paper written for a women's studies class, Katie tells of her struggles with writing.

> For years I have been taught in school that in writing academic papers I must strive to be objective, I must avoid the personal, . . . I must not deal with feelings and responses and reactions so much, but rather with ideas and evidence and arguments . . . I must push away the personal voice (and) construct some separate, objective, analytical voice. Yet, if writing is the setting down of ideas, where are my ideas to come from if I cannot allow myself to listen to the personal response?

Katie understands now that her teachers have been trying not to silence her personal voice but only to shape it, so that it communicates more clearly. But writing remains difficult for her.

> Writing is still a stage of conflict, a struggle to communicate, with two voices competing for my one mouth . . . The me-voice is loud because it is what I am truly thinking. Yet, the should-voice is strong because it has come from many other people, people in positions of power and apparent superiority, many times, over many years.

For Perry's students, the should-voice seems to evolve easily into a me-voice. But Katie and Simone remain stuck in subordinate, schoolgirl positions, and the me-voice and the should-voice remain at odds. For Katie, the two voices compete, and for Simone, the should-voice silences the me-voice. Both are very able women students, and they are not alone. Another able student, the philosopher Ruddick, writes, "In college I learned to avoid work done out of love. My intellectual life became increasingly critical, detached, and dispensable" (1977, p. 135). Simone appears to have dispensed with hers. During her senior year she aborted her honors thesis, withdrew her applications to the most prestigious graduate schools in the country, and returned to her hometown to marry her high school boyfriend and take a low-level job.

I wanted to understand better this phenomenon of arrested development. What caused it, and how general was it? Did women in other institutions experience the same collision between their own voices and the official institutional voice?

The Project on Education for Women's Development

With questions like this in mind, I joined three developmental psychologists from other institutions, Mary Belenky, Nancy Goldberger, and Jill Tarule, in a three-year project called "Education for Women's Development," supported by the U.S. Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE). That study led ultimately to our book, *Women's Ways of Knowing* (Belenky, Clinchy, Goldberger, & Tarule, 1986). We interviewed in depth 135 women varying widely in age, social class, race, and ethnic background, and coming from a wide range of institutions, including elite, traditional colleges; a progressive college concentrating on the arts; an "early college" with entering students two years younger than the norm; lowresidency programs for older students; and an inner city community college. We also interviewed women with little formal education who were clients from social agencies concerned with maternal and child health. This time, the decision to interview women and only women was deliberate. It is a decision we have been challenged incessantly to defend from the very inception of the project to the present day. In our book, we try to explain the decision.

> In our study we chose to listen only to women. The male experience has been so powerfully articulated that we believed we would hear the patterns in women's voices more clearly if we held at bay the powerful templates men have etched in the literature and in our minds. (p. 9)

We believed that if we allowed those powerful male voices to intrude, they would deafen us to the words of the women. When the male voice intrudes, it becomes the standard, and the women's voices are heard, if they are heard at all, as deviations from the male voice. We wanted to listen to the women in their own terms.

In attempting to understand the women's ways of knowing, we began by trying to classify them in terms of Perry's positions. These positions are defined in terms of the *nature* of truth: truth as single and absolute, as multiple, and as relative to context. The positions we finally defined owe much to and are built upon Perry's work. Yet, as we read and reread the interview transcripts, we also tried to stay close to the women's own images. We combed the interviews for what we came to call "growth metaphors," and one metaphor occurred repeatedly. Over and over the women spoke of their growth in terms of gaining a voice. As in Katie's paper, these women saw the themes of voice and self and mind as closely intertwined. (Katie's paper is not just about her problems as a writer. It is about her problems as a person and a knower.) These observations led us to revise our definitions of the epistemological positions to emphasize the *source* of knowledge and truth, rather than the *nature* of knowledge and truth. In reading an interview, we asked ourselves, How does the woman conceive of herself as a knower? Is knowledge seen as originating outside or inside the self? Can it be passed down intact from one person to another, or does it well up from within? Does knowledge appear effortlessly in the form of intuition or revelation, or is it attained only through an arduous procedure of construction?

Epistemological Positions

Some of the women we interviewed took a position we call *received knowledge*. These women, like Perry's dualists, rely on authorities, although the authorities do not always occupy authoritative roles; some are friends and lovers. The women count on these authorities to supply them with the right answers, to tell them who they are and what they should believe. Truth, for the received knower, is external. She can ingest it, but she cannot evaluate it or create it for herself. The received knowers are the students who sit there, pencils poised, ready to write down every word the teacher says.

A second mode of knowing that we identified we call *subjectivism*. Subjective knowledge is, in a sense, the opposite of received knowledge. While received knowers see knowledge as "out there," lodged in the minds of authorities, subjective knowers look inside themselves for knowledge. For them, truth is internal, in the heart or the gut. Truth is personal: You have your truths, and I have mine. The subjectivist relies on the knowledge she has gleaned from her own, firsthand, personal experience. She carries the residue of that experience in her gut in the form of intuition.

The subjectivist makes judgments in terms of feelings: An idea is right if it feels right. For example, in the Wellesley study we asked the students what they did when competing interpretations of a poem were being discussed in English class. How would they choose which one was right? One student said, "I usually find that when ideas are being tossed around, I'm usually more akin to one than another. I don't know—my opinions are just sort of *there*." Another said, "With me it's almost more a matter of liking one more than another. I mean, I happen to agree with one or identify with it more."

Now, it is possible that if we studied men we would find these positions, but we think they might often take a somewhat different tone. For instance, there is in the subjectivist statements I've just quoted a humble, self-deprecatory tone that does not appear in the statements of Perry's multiplists. The male multiplist says he has a right to his own opinion, and no teacher has the right to call him wrong. Some of the subjectivists we interviewed say the same thing. But more often—and *very* often in the more traditional and self-consciously rigorous colleges—the subjectivists said things like, "This is *just* (or *only*) my opinion," and they felt strongly that it would be wrong to "inflict" their opinions on anyone else. I am suggesting that there may be a gender difference at the subjectivist and received knowledge positions. But this is one of those questions I can't answer, because researchers (I and others) are only beginning to use the positions we defined to study men.

I want to concentrate in this article on the position that for many subjectivists, at least at Wellesley, is the next developmental step after subjectivism. We call it *procedural knowledge*. I want to dwell on this position, because it is here that the issues of gender, teaching, and learning intersect most meaningfully for me. There are several reasons for this. First, I think that much of my own teaching is devoted to helping students reach this position. I want my students to pay close attention to whatever it is we're studying, to examine it seriously and carefully. I don't want them just to swallow my interpretations of an experiment, for instance, but I also don't want them to wallow in their own gut reactions to the experiment.

The women we've interviewed have taught me to respect received knowledge and subjectivism in ways that I never did before, to see the virtues of these positions, and to see them as real achievements, rather than just something to be "gotten over" like measles or chicken pox or adolescence. Nevertheless, as a teacher, I want my students to move beyond these positions. Students who rely exclusively on received or subjective knowledge are not, in some sense, *really thinking*. The received knower's ideas come ready-made from the professor; the subjectivist's opinions are, as one student said, "just there." Neither the received knower nor the subjectivist has any systematic, deliberate procedures for developing new ideas or for testing the validity of ideas. What college seems to do for many students is to help them develop procedures for understanding and evaluating ideas. Most of the more advanced college students we interviewed had reached the position of procedural knowledge.

Separate Knowing

I want now to describe the two types of procedures we identify in *Women's Ways of Knowing*. Even after several years of research, when we began writing the book, we saw only one procedure. Now we call that procedure *separate knowing*. I won't spend much time describing separate knowing, because you know what it is, whether you've heard the term before or not. It's the "it" that writes Simone's papers. It's the "should-voice" in Katie's head—an objective, analytical voice, one that exercises care and precision. Separate knowing is emphasized in activities like critical thinking, scientific method, and textual analysis. Some people just call it "thinking." We used to, too, but now we claim it's only one kind of thinking.

The heart of separate knowing is detachment. The separate knower holds herself aloof from the object she is trying to analyze. She takes an impersonal stance. She follows certain rules or procedures to insure that her judgments are unbiased. All of our various disciplines and vocations have these impersonal procedures for analyzing things. All of the various fields have impersonal standards for evaluating things, criteria that allow you to decide whether a novel is well constructed or an experiment has been properly conducted or a person should be diagnosed as epileptic.

We academicians tend to place a high value on impersonality. For example, some of us pride ourselves on blind grading. We read and grade a student's paper without knowing who wrote it, so as not to let our feelings about the person affect our evaluation of the product. In separate knowing, you separate the knower from the known. The less you know about the author, the better you can evaluate (and, some would say, even understand) the work.

A couple of years ago, a group of us were planning a series of lectures in a team-taught interdisciplinary course, and some of us tried to entice the man who was going to lecture on Marx to tell the students a bit about Marx as a person. The lecturer argued strongly that Marx's biography was irrelevant to his theory and would only lead students astray, deflecting their attention from the ideas to the man. He finally grudgingly agreed to, as he put it, "locate Marx" within an intellectual tradition. That was as personal as he was willing to get.

Separate knowing often takes the form of an adversarial proceeding—not hostile, of course, but adversarial. The separate knower's primary mode of discourse is the argument. For example, one of the young women we interviewed who was a proficient separate knower said, "As soon as someone tells me his point of view, I immediately start arguing in my head the opposite point of view. When someone is saying something, I can't help turning it upside down." Another said, "I never take anything someone says for granted. I just tend to see the contrary. I like playing devil's advocate, arguing the opposite of what somebody's saying, thinking of exceptions to what the person has said or thinking of a different train of logic." These young women are playing what the writer Elbow (1973) calls "the doubting game." They think up opposing positions. They look for what is wrong with whatever it is they are examining. It could be a text or a painting or a person or anything at all.

Teachers report that they often have trouble inducing their women students to play the doubting game. In *Women's Ways of Knowing*, we retell a story told to us by a sophomore, about a time when, as she put it, the professor "gave" the class his interpretation of James' novel, which she referred to as *The Turning* (sic) *of the Screw*. Everyone silently, dutifully wrote it down. The professor, exasperated, tossed his notes into the air and said, "Listen. This is just my interpretation. You should be ripping it apart. You're just sitting there. Come on, start ripping at it." But the student was unable to rip into it. "Basically," she said, "I agreed with it."

Michael Gorra, an assistant professor of English at Smith College, a women's college, tells a similar story in an article in *The New York Times* called, "Learning to Hear the Small, Soft Voices" (1988). Gorra complains that he has trouble getting a class discussion off the ground, because the students refuse to argue, either with him or with one another. He tells about a recent incident in which two students, one speaking right after the other, offered diametrically opposed readings of an Auden poem.

> The second student didn't define her interpretation against her predecessor's, as I think a man would have. She didn't begin by saying, "I don't agree with that." She betrayed no awareness that she had disagreed with her classmate, and seemed surprised when I pointed it out. (p. 32)

Gorra has found the feminist poet Rich helpful in trying to understand this phenomenon. In an essay called, "Taking Women Students Seriously" (1979), Rich says that women have been taught since early childhood to speak in "small, soft voices" (p. 243). Gorra adds:

> Our students still suffer, even at a women's college, from the lessons Rich says women are taught about unfemininity of assertiveness. They are uneasy with the prospect of having to defend their opinions, not only against my own devil's advocacy, but against each other. They would rather not speak if speaking means breaking with their classmates' consensus. Yet that consensus is usually more emotion, a matter of tone, than it is intellectual. (p. 32)

Like Gorra, I teach at a women's college, and I have had experiences similar to his. Once upon a time, I would have described them in the same way he does, but my research has led me to see these situations somewhat differently. It is not that I don't sympathize with him. I do, and I value what he's trying to teach. Critical thinking is obviously of great importance. It allows you to criticize your own and other people's thinking. Without it, you couldn't write a second draft of your paper; the first draft would look just fine. Without it, you're unable to marshall a convincing argument or to detect a specious one. Separate knowing is a powerful way of knowing.

Furthermore, argument is a powerful mode of discourse. We all need to know how to use it. Our interviews—particularly, in research going on now—confirm Gorra's sense that many young women are reluctant to engage in argument. I agree, and so would many of the women, that this is a limitation. But argument is not the only form of dialogue. If asked to engage in other types of conversation—to speak in a different voice, to borrow Gilligan's phrase (1982)—we found that women can speak with eloquence and strength. Gorra may not know about this different voice, as I didn't, because, like many professors, he doesn't invite it to speak in his classroom. In Gorra's classroom, as in many classrooms run by teachers who pride themselves on encouraging discussion, discussion means disagreement, and the student has two choices: to disagree or to remain silent. To get a somewhat different slant on the problem, Gorra might want to dip into another of Rich's essays, "Toward a Women-centered University" (1979). In it she says that our educational practice is founded upon a "masculine, adversarial form of discourse" (p. 138). Here, Rich defines the problem of silence not as a deficiency in women, but as a limitation in our educational institutions.

I agree. Argument is the only style of discourse that has found much favor in the groves of academe. But there *is* a different voice.

Connected Knowing

In the Wellesley study, we asked undergraduate women to respond to comments made by other undergraduates. Among other things, we asked them to read the comment I quoted earlier, "As soon as someone tells me his point of view, I immediately start arguing in my head the opposite point of view." We asked them to tell us what they thought about it. Most of them said they didn't like it much, and they didn't do it much.

These women could recognize disagreement, all right, but they didn't deal with disagreement by arguing. For instance, a woman we call Grace said that when she disagreed with someone, she didn't start arguing in her head; she started trying to imagine herself into the person's situation. She said, "I sort of fit myself into it in my mind, and then I say, 'I see what you mean.'" She added, "There's this initial point where I kind of go into the story, you know? And become like Alice in Wonderland falling down the well."

It took Claire and me a long time to hear what Grace was saying. We thought at the time that she was just revealing her inability to engage in critical thinking. To us, her comment indicated not the presence of a different way of thinking but the absence of any kind of thinking, not a difference but a deficiency. Now we see it as an instance of a genuine procedure. We call it *connected knowing,* and, as we go back over the interviews we have done with women over the years, we find it everywhere. We find it, for example, in that ugly pile of interviews in the corner of my office that we were unable to code. Further, we understand why many women have a proclivity toward connected knowing.

Here is an especially clear illustration of connected knowing, from a college student we call Priscilla:

> When I have an idea about something, and it differs from the way another person's thinking about it, I'll usually try to look at it from that person's point of view, see how they could say that, why they think they're right, why it makes sense.

Now, contrast this quotation with those illustrating separate knowing. When you play devil's advocate, you take a position contrary to the other person's, even when you agree with it, even when it seems intuitively right. Priscilla turns this upside down. She allies herself with the other person's position even when she disagrees with it. Another student illustrates the same point. This woman said she seldom played devil's advocate. She said, "I'm usually a little bit of a chameleon. I really try to look for pieces of truth in what the person says, instead of going contrary to him. Sort of collaborate with him."

These women are playing what Elbow (1973) calls "the believing game." Instead of looking for what's wrong with the other person's idea, they try to see why it makes sense, how it might be right. Connected knowers are not dispassionate, unbiased observers; they deliberately bias themselves in favor of the thing they are examining. They try to get right inside it, to form an intimate attachment to it. This imaginative attachment is at the heart of connected knowing. Priscilla tries to get behind the other person's eyes, "to look at it from that person's point of view." This is what Elbow means by "believe." You must suspend your disbelief, put your own views aside, and try to see the logic in the idea. You need not ultimately agree with it. But while you are entertaining it, you must, as Elbow says, "say yes to it." You must empathize with it, feel and think with the person who created it. Emotion is not outlawed, as in separate knowing. But reason is also present. The self is not obliterated. You use your own experience as a means of understanding what produced the idea you are attempting to understand.

The connected knower believes that in order to understand what a person is saying, one must adopt the person's own terms. One must refrain from judgment. In this sense, connected knowing is uncritical. But it is not unthinking; it is a personal way of thinking, and it involves feeling. The connected knower takes a personal approach even to an impersonal thing like a philosophical treatise. She treats the text, as one Wellesley student put it, "as if it were a friend." In Buber's terms (1970), the text is a "thou," a subject, rather than an "it," an object of analysis.

So, while the separate knower takes nothing at face value, the connected knower, in a sense, takes everything at face value. She doesn't try to evaluate the perspective she is examining; she tries to understand it. She does not ask whether it is right; she asks what it means. When she says, Why do you think that? she doesn't mean, What evidence do you have to back that up? She means, What in your experience led you to that position? She is looking for the story behind the idea. The voice of separate knowing is argument; the voice of connected knowing is a narrative voice.

Women spend a lot of time sharing stories of their experience. It sometimes seemed to us that first-year college students spent most of their time this way. This may help to account for the fact that many studies of intellectual development among college students show that the major growth occurs during the first year.

We call these conversations *connected conversations*. These conversations may begin rather like clinical interviews. In this sort of interviewing, a still, soft voice is an asset. The skilled interviewer says little; mainly, she listens. But the listening is active, although it may appear passive. The skilled interviewer offers support and invites elaboration at the proper moment. If we cultivate and nourish our students' skills in connected knowing, students can begin to engage in fully mutual connected knowing, in which each person serves as midwife to each other person's thoughts, and each builds on the other's ideas. Some of the women we interviewed cherished memories of class discussions that took this form, with students and teachers drawing out and entering into one another's ideas, elaborating upon them, and building together a truth none could have constructed alone.

Gender in the Academy

Let me make some points of clarification. First, I want to make it very clear that when I say that women have a proclivity toward connected knowing, I am not saying that women will not or cannot think. I am saying that many women would rather think *with* someone than think *against* someone. I *am* arguing against an unnecessarily constricted view of thinking as analytic, detached, and divorced from feeling.

Similarly, I do not object to the cultivation of separate knowing in the academy. I believe it is important to teach the skills of separate knowing. But I do object to an educational system that places nearly exclusive emphasis on separate knowing and fails to acknowledge with respect, let alone to nourish, the skills of connected knowing.

When a woman (or anybody) with a proclivity toward connected knowing enters an environment that fails to recognize connected knowing as a legitimate way of knowing, she feels disconfirmed as a thinker. Such women may become highly adept in separate knowing, but, as they say, "it doesn't feel right." It feels lonely, ungenerous, fraudulent, and futile. Thus it never becomes a "me-voice." It remains a separate voice, separate from the self. The me-voice, being ignored, may fail to develop further or may even wither away.

This, to me, is the really insidious effect of an education that emphasizes separate knowing to the virtual exclusion of connected knowing. Like Ruddick (1977), many of the students we interviewed had removed themselves from their work and dissociated thinking and feeling. They had learned, to paraphrase Ruddick, to think only about things they didn't care about and to care only about things they didn't think about.

What is it like for the male undergraduate? In research that Annick Mansfield and I and other colleagues are doing now, exploring separate and connected knowing in men and women, we are finding, so far, that men usually describe themselves as more comfortable and adept in argument than women do. Most of the men interviewed have said that they like to argue and have found argument useful in sharpening their thinking. In a sense, then, educational practices based on an adversarial model may be more appropriate—or at least less stressful—for men than for women.

Typically, the men's responses to our questions about connected knowing reflect an ambivalence similar to the women's attitudes toward argument. These men said they knew they ought to try harder to enter the other person's perspective, but it made them uneasy, and they found it difficult to do, so they didn't do it much. It is possible that men like this might feel as constricted in the kind of connected class discussion I envisage as the women seem to feel in Professor Gorra's classroom. In a connected class, these men might grow silent, and the teacher would worry about what it was in the men's upbringing that had inhibited their intellectual development.

But not all the men would grow silent. Although the preliminary results of our research confirm our hunch that the two modes are probably gender-related, it is clear that they are not gender-exclusive. We are not talking about genetic incapacity here. Many men have said to us, in person or in writing, "Why do you call it '*women's* ways of knowing?' I'm a connected knower too."

Many of these men are college professors, and they are feeling as constricted by the exclusively adversarial style of their institutions as the women professors and students are. One man wrote to me:

> I took up the study of English literature because I fell in love with the metaphysical poets. But now I find that to get promoted at my institution I must write macho criticism in which I tear my loved ones apart.

Some of these men are considering leaving academic life, divorcing themselves both from their colleges and their disciplines in order, as one expressed it, "to put my heart and mind together again."

That is what Ruddick had to do. Years after earning a Ph.D. and becoming a mother, Ruddick's intellect came alive. In rearing her two children, Ruddick developed a way of knowing that was simultaneously separate and connected. She watched the children closely, attentively, in detail, her attention sharpened rather than clouded by her love for them. As a sort of hobby, she began to study Virginia Woolf, and she found that the way of thinking she developed in reading Woolf was closer to the way of thinking she used in rearing children than to the way she had been taught in college and graduate school. She writes:

> I seemed to learn new ways of attending . . . This kind of attending was intimately connected with caring; because I cared I reread slowly, then found myself watching more carefully, listening with patience . . . The more I attended, the more deeply I cared. The domination of feeling by thought, which I had worked so hard to achieve, was breaking down. Instead of developing arguments that could bring my feelings to heel, I allowed feeling to inform my most abstract thinking . . . I now care about my thinking and think about what I care about. (1984, p. 151)

Ruddick has returned to philosophy, but not to mainstream philosophy[3], and she has returned to college teaching, but not to traditional college teaching. Reconstructing her professional life around her new ways of knowing, she has invented new forms of philosophy and new styles of teaching. It is this sort of reconstruction that I would like to see all teachers achieve, as men and women, learners and thinkers, and critics and lovers of ideas, so that we can do the work we care about and care about the work we do, and help our students to achieve earlier and with less suffering, the integration of separate and connected knowing.

References

Belenky, M. B., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). *Women's ways of knowing.* New York: Basic Books.

Buber, M. (1970). *I and thou.* New York: Scribner.

Elbow, P. (1973). *Writing without teachers.* London: Oxford University Press.

Freire, P. (1971). *Pedagogy of the oppressed.* New York: Seabury.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Gorra, M. (1988, May 1). Learning to hear the small, soft voices. *The New York Times Sunday Magazine*, pp. 32, 34.

Perry, W. G. (1968/1970). *Forms of intellectual and ethical development in the college years.* New York: Holt, Rinehart & Winston.

Rich, A. (1979). *On lies, secrets, and silence: Selected prose—1966-1978.* New York: Norton.

Ruddick, S. (1977). A work of one's own. In S. Ruddick & P. Daniels (Eds.), *Working it out* (pp. 128-143). New York: Pantheon.

Ruddick, S. (1984). New combinations: Learning from Virginia Woolf. In C. Asher, L. DeSalvo, & S. Ruddick (Eds.), *Between women* (pp. 137-159). Boston: Beacon Press.

Footnotes

[1] For a fuller description of these findings, see Clinchy, B., & Zimmerman, C. Epistemology and agency in the development of undergraduate women. In P. Perun (Ed.), *The undergraduate woman: Issues in educational equity.* Lexington, MA: D.C. Heath.

[2] All informants' names are pseudonyms.

[3] See, for example, her recent book, *Maternal Thinking: Toward a Politics of Peace*, Beacon Press, 1989.

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Student Involvement in Learning: Cooperative Learning and College Instruction

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Introduction

Cooperative Learning is a structured, systematic instructional strategy in which small groups work together toward a common goal. Although over 1,000 studies have been conducted on Cooperative Learning at the precollegiate level, relatively few have been done using college students. In addition, many of the studies completed at the college level have suffered from methodological problems such as small sample sizes, lack of randomization in assigning subjects to treatment groups, and want of a clear, systematic operational definition of Cooperative Learning. A review of the literature indicates that more than 10 descriptors have been used to characterize small group instruction. Such terms as Collaborative Learning, peer response groups, syndicate learning, and others have been used to describe procedures quite similar to Cooperative Learning.

Critical Features

We believe that a number of critical features distinguish Cooperative Learning from other forms of team learning. Perhaps the most characteristic feature

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of Cooperative Learning is *positive interdependence*, that is, all members of a learning team are responsible for the learning of other members. Thus in most Cooperative Learning classrooms, all members of a team work together to produce a common product. For example, in an educational statistics class for graduate students completing MA programs in education, the class meets for three hours once a week. Typically, the teacher lectures for two hours on topics such as group research designs, inferential and descriptive statistics, and sampling theory, then breaks students into heterogeneously formed groups based on graduate GPA. Teams are then given highly structured worksheets requiring group solutions to each of a number of problems. Team members are required to assist each other in understanding the solutions to all the problems. No one may ask the instructor for assistance unless all other team members have been consulted first.

A second critical feature of Cooperative Learning is *individual accountability*. One problem with traditional team learning has been the tendency for members of groups either to dominate or to "sandbag." In Cooperative Learning, a formal rule prohibits this behavior and is enforced by team members and the teacher. Another procedure designed to insure individual accountability is that only a small percentage of a student's course grade depends on group learning activities. Most of the grade, as in traditionally structured courses, depends on individually completed tests and papers. For example, in the statistics class, less than 3% of the total grade is based on successful completion of at least 10 team learning activities.

We believe that positive interdependence and individual accountability are essential components of effective Cooperative Learning classrooms. Team learning structures lacking either of these two features are more properly termed Collaborative Learning or team learning, but not Cooperative Learning.

A third feature of Cooperative Learning is the appropriate assignment of students to learning teams. Generally such grouping is heterogeneous, based on race, sex, prior achievement, and/or other characteristics determined by the instructor, for instance, on the basis of graduate GPA. Because of the diverse nature of the student population at CSU Dominguez Hills, groups tend to be heterogeneous with respect to race, ethnicity, sex, and age.

There may be times, however, when homogeneous grouping is preferred. For example, one of our colleagues teaches a course in secondary methods for students seeking to teach at the high school level. She assigns students to learning teams by academic major so that math majors are placed on one learning team, science majors on another, and so on.

Another feature of Cooperative Learning concerns the role of the teacher. In Cooperative Learning, the teacher designs the learning activities and monitors the groups as they are engaged in team learning. Rather than functioning solely as an expert, dispensing knowledge to students, the teacher in Cooperative Learning serves as a facilitator.

A fifth feature of Cooperative Learning is its explicit attention to social skills. Students are required to cooperate with one another and are often given explicit rules and guidelines for appropriate social skills. For example, in many Cooperative Learning classrooms, students are instructed that they may criticize an idea but not the person presenting the idea. Active listening is another social skill commonly stressed in Cooperative Learning. One might expect that college students possess these skills and that there is no need for the skills to be taught directly or even stated as a classroom norm. However, our experience is that these skills have to be specified in the syllabus at the beginning of the course, if not modeled and taught directly.

Another feature of Cooperative Learning is face-to-face verbal problem solving, which holds advantages for both skilled and less skilled students. Good students benefit from serving as tutors to the other members of the group; less proficient students receive diagnostic and remedial help from their teammates. Much of this verbal interaction occurs immediately after directed teaching and allows students to elaborate on lecture material and to consolidate this information in long-term memory. Students who are reluctant to participate in large class discussion are often quite comfortable contributing to small group interactions.

Positive Outcomes

As noted previously, most of the research on Cooperative Learning has been conducted at the precollegiate level. For example, Johnson, Maruyama, Johnson, Nelson, and Skon (1981) and Slavin (1983) conducted major meta-analyses concerning the effect of Cooperative Learning on general academic achievement. In both analyses, Cooperative Learning produced large achievement gains when compared with more traditional teaching procedures. Slavin's report used only K-12 students, whereas Johnson et al. used primarily K-12 subjects but also included some collegiate and adult learners.

Although studies conducted on Cooperative Learning at the college level are limited in number, a few studies have produced significant achievement effects. For example, Frierson (1986) found that Black nursing students performed better on a state nursing exam when they studied cooperatively, as compared with similar students studying individually. Dansereau (1983) found that "Cooperative Learning was consistently more effective than individual learning" when students were required to remember information from a geology text. Treisman (1985) studied the effects of Cooperative Learning on Black students at Berkeley who entered college as math or science majors. He found that Black students participating in his cooperatively taught enrichment sessions received a mean grade average of 2.6 in freshman calculus, whereas a comparable group of Blacks not attending the workshops averaged 1.5. Five-year retention rates at Berkeley for Black workshop attendees was 65% and for Black nonattendees, 41% (the all-campus average is 66%). The percentage of Black workshop attendees graduating in mathematics-based majors was 44%, while the graduation rate was only 10% for the Black control group not attending the workshops.

Higher-level thinking skills and second language acquisition are other achievement measures that have been positively affected by cooperative teaching techniques (Johnson et al., 1981; Slavin, 1983). The most consistent positive findings for Cooperative Learning, however, have centered on affective or attitudinal change. Outcome measures such as racial/ethnic relations, sex difference relations, self-esteem, and other prosocial outcomes have all been documented in the Cooperative Learning research.

California State University Dominguez Hills Data

For the last four years, Cooperative Learning has been practiced at Dominguez Hills in a number of courses across the curriculum. Currently, a group of 15 to 20 faculty meet monthly to share data, troubleshoot procedures, and discuss other issues in Cooperative Learning. Many of these faculty have been gathering data on the effect of Cooperative Learning in their classes. The results are depicted in Table 1. At the end of each semester, students in cooperatively taught courses are asked to compare these classes with lecture and lecture-discussion courses they have taken during that semester or in the past. As shown in Table 1, the overwhelming majority of the students prefer Cooperative Learning. Outcome measures such as higher-level thinking skills, interest in subject matter, general class morale, and frequency/quality of interactions with classmates receive particularly favorable ratings.

Narrative comments also are solicited on the end-of-course student evaluations. Mastery/comprehension of subject matter is the most frequently cited advantage of Cooperative Learning when compared with more traditional forms of instruction. Quality of peer interaction, ability to understand different points of view, interest in and enjoyment of class, and increased inclination to attend class round out the most frequently stated advantages of Cooperative Learning.

The CSU Chancellor's Office has granted funds to study Cooperative Learning in an educational statistics class. Although the sample size is rather small as of this writing, some patterns are beginning to emerge. At the beginning of the semester, female students are more anxious and lower achieving than are their male counterparts. Similarly, Black students are lower achieving and more anxious than are Anglo students. Over the course of the semester, all students gained in achievement and reduced their anxiety levels concerning course content, but females and Blacks did so at differential rates when compared to male and Anglo students.

These data are consistent with precollegiate data on the effects of Cooperative Learning. That is, all students performed well when exposed to Cooperative Learning, but lower achievers, females, and minorities performed particularly well. If replicable, these "aptitude-treatment" interactions have particular importance as college instructors confront the diversity of student populations that characterize many of our nation's colleges. Whether Cooperative Learning is a main effect replicable with all types of students, or whether it interacts with student characteristics, it is clear that the technique is useful to teachers in a variety of disciplines and with many types of students.

Implementing Cooperative Learning in Your Classroom

Based on using Cooperative Learning for over three years in classes at Dominguez Hills, and our observation of implementation of Cooperative Learning in a variety of precollegiate and collegiate classrooms, the following strategies and techniques appear to characterize successful implementation of Cooperative Learning at the college level.

Structure and organization. Among the most important characteristics of effectively functioning Cooperative Learning groups are clearly structured team learning assignments and highly organized in-class implementation of those assignments. In pursuit of appropriate levels of structure and organization, some instructors go as far as specifying precise time limits for each element of the Cooperative Learning assignment. Students will stay on task during Cooperative Learning activities if the assignment instructions are clear and the learning activities are relevant to the course objectives. One way of insuring failure in Cooperative Learning is to give vague instructions to students concerning the assignment and the procedure for carrying out that assignment.

Assignments must require learning of material, not completion of task. If students perceive that they may fulfill team learning requirements simply by completing a worksheet or other assignment, there is little incentive for taking responsibility for their teammates. Thus instructions to the teams must indicate clearly that all team members are required to achieve mastery of the content of the assignment. Some ways of accomplishing this interdependence are to quiz individual team members verbally concerning the content of the completed worksheet/assignment, to give a brief written quiz to each team member upon completion of the assignment, or to select one team member randomly to take a written quiz for the entire team. Another technique for insuring that team members will help one another during the Cooperative Learning activities is to give each team a group reward when individual members of the team increase scores on individually completed class tests or papers. Interdependence may also be fostered by a "jigsaw" procedure in which the team learning activity is structured such that different team members are responsible for learning and teaching different elements of the group learning assignment to their teammates.

Groups should be selected by the teacher, not the students. Our experience tells us that allowing students to select their own teammates produces excessive socializing and off-task behavior within groups. Random assignment to groups can produce one or more low-functioning teams, which may disrupt the learning

Table 1

Students Responding That Cooperative Learning Was Significantly or Somewhat More Effective Than Traditional College Instruction

	Cooperative Learning		
Outcome	**Significantly More Effective (%)**	**Somewhat More Effective (%)**	**Total (%)**
General academic achievement	37.3[a]	42.0[a]	79.3[a]
	54.3[b]	27.1[b]	81.4[b]
	32.5[c]	41.6[c]	74.1[c]
	32.5[d]	43.4[d]	75.9[d]
	23.3[e]	56.0[e]	79.3[e]
Higher-level thinking skills	38.2[a]	43.3[a]	81.5[a]
	47.1[b]	34.3[b]	81.4[b]
	32.2[c]	41.3[c]	73.5[c]
	37.2[d]	44.0[d]	81.2[d]
	28.8[e]	40.7[e]	69.5[e]
Interest in subject matter	50.0[a]	34.4[a]	84.4[a]
	57.1[b]	28.6[b]	85.7[b]
	44.8[c]	30.8[c]	75.6[c]
	40.2[d]	44.0[d]	84.2[d]
	34.7[e]	39.9[e]	74.6[e]
Likelihood of student attending class	47.8[a]	23.9[a]	71.7[a]
	40.6[b]	31.9[b]	72.5[b]
	44.8[c]	30.8[c]	75.6[c]
	45.9[d]	24.6[d]	70.5[d]
	23.7[e]	28.8[e]	52.5[e]
Frequency and quality of contact with instructor	44.6[a]	31.3[a]	75.9[a]
	52.9[b]	27.1[b]	80.0[b]
	32.5[c]	33.2[c]	65.7[c]
	32.5[d]	39.2[d]	71.7[d]
	19.5[e]	28.0[e]	47.5[e]
Time on task	41.3[a]	41.0[a]	82.3[a]
	48.6[b]	28.6[b]	77.2[b]
	36.4[c]	38.8[c]	75.2[c]
	36.4[d]	37.5[d]	73.9[d]
	26.3[e]	46.6[e]	72.9[e]
Ability to diagnose own knowledge of subject matter	33.3[a]	48.3[a]	81.6[a]
	44.3[b]	31.4[b]	75.7[b]
	36.7[c]	40.6[c]	77.3[c]
	32.8[d]	44.9[d]	77.7[d]
	19.7[e]	50.4[e]	70.1[e]

Outcome	Significantly More Effective (%)	Somewhat More Effective (%)	Total (%)
Frequency and quality of interactions with classmates	68.6[a]	25.9[a]	94.5[a]
	80.0[b]	11.4[b]	91.4[b]
	62.9[c]	25.2[c]	88.1[c]
	65.8[d]	27.1[d]	92.9[d]
	71.8[e]	23.9[e]	95.7[e]
Amount of class time required to reach mastery	35.4[a]	43.6[a]	79.0[a]
	53.6[b]	24.6[b]	78.2[b]
	30.4[c]	40.6[c]	71.0[c]
	30.8[d]	41.0[d]	71.8[d]
	19.7[e]	47.0[e]	66.7[e]
General class morale	56.5[a]	33.6[a]	90.1[a]
	54.3[b]	35.7[b]	90.0[b]
	42.0[c]	43.0[c]	85.0[c]
	47.0[d]	38.0[d]	85.0[d]
	41.9[e]	41.0[e]	82.9[e]
Rapport with teacher	49.3[a]	30.9[a]	80.2[a]
	49.3[b]	39.1[b]	88.4[b]
	36.4[c]	31.8[c]	68.2[c]
	37.9[d]	37.1[d]	75.0[d]
	17.0[e]	29.5[e]	46.5[e]

Note. Ratings based on 5-point Likert scale where 1 = "significantly more effective than traditional college instruction" and 5 = "significantly less effective than traditional college instruction."

[a] Fall Semester 1988, 14 classes including clinical science, educational research methods and statistics, Spanish culture, sociolinguistics, French, reading methods, classroom management, and secondary methods, N = 298.

[b] Summer Term 1988, 12 classes including biology, educational research methods and statistics, statistical analysis in clinical science, teaching methods, Spanish culture, sociolinguistics, and Mexican-American studies (lower- and upper-division and graduate classes), N = 70.

[c] Spring Semester 1988, 12 classes including Spanish literature and sociolinguistics, education methods, educational research methods and statistics, and Mexican-American studies (lower- and upper-division and graduate classes), N = 286.

[d] Fall Semester 1987, 4 classes including teaching methods and graduate educational research methods and statistics, N = 266.

[e] Summer Term 1987, 4 classes including teaching methods and graduate educational research methods and statistics, N = 118.

of the class as a whole. Most experienced practitioners find that grouping the students heterogeneously based on achievement and any other factors of importance to the instructor (e.g., race, sex, age) results in the most productive Cooperative Learning experience. A critical mass of serious, task-oriented students must be present in each team to produce the highest level of constructive student involvement and on-task behavior.

Team building. If the instructor is planning to make a serious commitment to Cooperative Learning, team building should be among the first activities implemented to encourage group cohesiveness. At the start of the first Cooperative Learning session, 10 to 20 minutes should be devoted to having team members introduce themselves to one another. The senior author uses a written worksheet to help accomplish this activity. On the worksheet, he briefly describes his professional training and background as well as some of his favorite avocations. Then students are required to give similar information to teammates and are encouraged to exchange home phone numbers.

In-class versus out-of-class team learning. Our experience indicates that most team learning should take place during class time. It is difficult for the instructor to monitor out-of-class team learning. In the latter case, teams often have problems with off-task behavior, dominators and sandbaggers, and fulfilling only the nominal requirements of the assignments rather than mastering the knowledge implied in the tasks. Although use of class time for team learning decreases time available for lecture coverage of the material, we believe that mastery of the material covered increases very significantly. Slavin (1983) and others have found that using part of the class time for group learning produces higher levels of achievement when compared with more traditional direct instruction (lecture) techniques.

Group size. For Cooperative Learning activities, groups of four or five students appear to be most effective. Assigning fewer students to each team limits the diversity of opinion that is a major strength of Cooperative Learning. Teams with a higher number of students offer less opportunity for individuals to practice and receive feedback on the academic tasks.

Student complaints. When Cooperative Learning activities are well planned, clearly organized, and obviously relevant to the course objectives, most students find team learning an enjoyable and highly involving activity. Occasionally a student, upon hearing about Cooperative Learning for the first time, will complain that he or she took the class to learn from the "expert," the instructor. Such a person often feels that group learning is essentially shared ignorance and resists working within a group structure. It is our observation that such students usually become enthusiastic participants in Cooperative Learning after trying at least two group learning activities.

Initiating Cooperative Learning. It is possible to use Cooperative Learning in more traditionally structured classes with a minimum of disruption to existing procedures and with a relatively small investment of instructor time. Professors might begin using Cooperative Learning simply by pausing after 15 to 20 minutes of lecture and asking pairs of students to reflect on the lecture material in ways suggested by the teacher (e.g., have students give real-world examples or ask questions that relate to the lecture). Teachers could also use Cooperative Learning during the class period prior to each exam. Teams of students could be given examination review materials and asked to reach team consensus concerning the answers. Once such simple techniques are implemented successfully, more sophisticated applications of Cooperative Learning can be developed.

Most college professors have received little or no instruction in pedagogy. As a result, they tend to teach students the way they were taught, using lecture and lecture-discussion methods. The purpose of this article is to present an alternative to these techniques, an active learning strategy known as Cooperative Learning. Although the research on Cooperative Learning indicates that it is a powerful procedure for influencing student achievement and attitudes, the technique has not been implemented systematically in many college classrooms. The research at both the K-12 and collegiate levels, and the work conducted at Dominguez Hills, indicates that appropriate implementation of Cooperative Learning techniques can increase students' involvement in learning, enjoyment of the learning process, and mastery of course content.

References

Dansereau, D. F. (1983). *Cooperative learning: Impact on acquisition of knowledge and skills.* (Report No. 341). Abilene, TX: U.S. Army Research Institute for the Behavioral and Social Sciences. (ERIC Document Reproduction Service No. ED 243 088)

Frierson, H. (1986). Two intervention methods: Effects on groups of predominantly black nursing students' board scores. *Journal of Research and Development in Education, 19,* 18-23.

Johnson, D. W., Maruyama, G., Johnson, R. T., Nelson, D., & Skon, L. (1981). Effect of cooperative, competitive and individualistic goal structures on achievement: A meta-analysis. *Psychological Bulletin, 89,* 47-62.

Slavin, R. E. (1983). When does cooperative learning increase student achievement? *Psychological Bulletin, 94,* 429-445.

Treisman, U. (1985). A study of the mathematics performance of black students at the University of California, Berkeley (Doctoral dissertation, University of California, Berkeley, 1986). *Dissertation Abstracts International, 47,* 1641A.

Clegg, C.S. (1990). Critical discourses: Collaborative learning in literary studies. *Journal on Excellence in College Teaching, 1*, 77-87.

Critical Discourses: Collaborative Learning in Literary Studies

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In *Achieving Educational Excellence*, Alexander Astin, director of UCLA's Higher Education Research Institute, suggests that one way to improve higher education is to move toward a model of talent development for faculty and students alike. Besides proposing ways in which institutional commitments can be made to talent development as a whole, Astin's (1985) recommendations for improving college teaching relate to one central issue: student involvement. Recent research indicating that "learning will be greatest when the learning environment is structured to encourage active participation by the student" justifies such involvement (p. 142). The 1984 report from the Study Group on the Conditions of Excellence in Higher Education recommended several techniques for active learning, including "supervised independent study, internships, taking part in faculty research activities, and participation in small discussion groups" (p. 161). Astin does not propose specific models for any of these pedagogical approaches, but in recent years, collaborative learning models have evolved in several disciplines. In collaborative learning, students work in small groups, and the responsibility for presenting course content shifts from the instructor to the group.

Below I will discuss the work that is considered seminal on collaborative learning in English studies. While this work provides both practical models and a theoretical rationale, it neglects research on cognition and discourse theory that explains how and why collaborative learning is effective for teaching

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This article is based on a presentation made at the First Annual Lilly Conference on College Teaching-West, March 17-19, 1989, University of California Conference Center, Lake Arrowhead, California.

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literature. By expanding upon this early study of collaborative learning with recent research on both discourse theory and the relationship between cognition and reading, and by reassessing the understanding of interpretive communities stated in the earlier work, I hope to substantiate the assumptions about collaborative learning's importance in literary studies. An example from my own classroom experience should suggest a practical application for these theoretical considerations.

The original work on collaborative learning in English studies was done by Bruffee (1973). Bruffee found a model in the feminist consciousness-raising groups and free universities of the late 1960s and early 1970s. These experiments relied on the group, rather than an authority figure, to encourage personal growth. With this in mind, Bruffee proposed that "the teacher must reconceive his role . . . He must reapportion freedom and discipline within the class, thereby establishing a 'polycentralized' collaborative learning community in which the teacher moves to the perimeter of the action, once the scene is set" (pp. 634-637).

Bruffee went on to describe the collaborative experience he set up in a romantic poetry course. From this description, Bruffee abstracted a six-part collaborative learning model in which, after an initial orientation by the instructor (Part 1), students declare interest in units of subject matter and form groups (Part 2). Each group presents its information to the class in one or two weeks of class time (Part 3), and each group member is responsible to the other members of the group (Part 4). The teacher (Part 5) determines the subject matter, orients the groups, mediates, and advises. The instructor also serves as a resource person and as a judge in the evaluation process (part 6), in which at least two students compose a jury (1973, pp. 638-639).

Bruffee's model addresses issues Astin raised in his discussion of academic excellence. The collaborative learning model allows students to determine what they want to learn, to cooperate in acquiring information, and to evaluate themselves. The teacher moves from an authoritarian transmitter of sacred knowledge to a facilitator and resource. Small groups discuss a segment of the course's readings, develop insights, and present their responses to the larger group. Bruffee suggested that learning occurs in part during group discussion, which he did not address theoretically until 1984 and never addressed practically. Learning also results from listening to what other groups report to the class and from reading and evaluating other students' papers. Practically speaking, students learn a small part of the course material in the group collaborative learning situation and the remainder from group presentations (read *lectures*) in an environment similar to a traditional classroom. Any one student in a group knows only as much as the best-informed member of the group, and what is gained in class is probably less than what the other groups learned, because of the assumption that students learn more collaboratively than they do from the traditional lecture format.

Besides not fully addressing how the group learns and what it learns, Bruffee treads on somewhat shaky ground when he considers the teacher's role. Ideally, the teacher introduces the subject matter and serves as a resource person and judge. One bewildering word, however, insinuates itself into Bruffee's discussion: mediator. At best, this may mean that the literature teacher serves as a go-between from the academic community's discourse on a literary work to the students' discussions; at worst, this may mean the teacher's role parallels the therapist's in untying the knots of group dynamics, a skill few graduate literature programs teach. The second possibility reminds those of us who have ever worked on a faculty committee that sometimes group dynamics can be brutal, and for group learning to proceed effectively, both the teacher and the groups need to develop group skills such as active listening, empathy, and accountability.

The central theoretical grounding for collaborative learning also comes from Bruffee (1984), who finds a rationale for collaborative learning in contemporary philosophy. He begins by linking knowledge to conversation, then identifies conversation with thought. For this, he looks first to Oakeshott, who sees human knowledge as a conversation with the past and education as an initiation into this conversation.

> As civilized human beings we are the inheritors, neither of an inquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primeval forests and extended and made more articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves . . . Education, properly speaking, is an initiation into the skill and partnership of this conversation in which we learn to recognize the voices, to distinguish the proper occasions of utterance, and in which we acquire the intellectual and moral habits appropriate to conversation. And it is this conversation which, in the end, gives place and character to every human activity and utterance. ("The Voice of Poetry in the Conversation of Mankind," quoted in Bruffee, 1984, pp. 638-639).

From this, Bruffee infers that in arguing "that the human conversation takes place within us as well as among us, and that conversation as it takes place within us is what we call reflective thought," Oakeshott assumes that "conversation and reflective thought are related in two ways: causally and functionally." Bruffee then substantiates this reading of Oakeshott (identifying conversation and thought) by referring to Vygotsky's work in *Mind and Society* that has "shown" that "reflective thought is public or social conversation internalized" (quoted in Bruffee, 1984, p. 639). Bruffee then proceeds from what appears to be Vygotsky's equation of conversation and thought to his own inference of a causal relationship between conversation and thought by referring back to Oakeshott.

> We first experience and learn "the skill and partnership of conversation" in the external arena of direct social exchange with other people. *Only then* [emphasis added] do we learn to displace that "skill and partnership" by playing silently ourselves, in imagination, the parts of all the participants in the conversation. (1984, p. 639)

Bruffee then affirms the causal relationship between conversation and thought and asserts the social constitution of both public conversation and private thought. He refers to the work of the social anthropologist Geertz, who observes that "Human thought is consummately social: social in its origins, social in its functions, social in its form, social in its applications" and private thinking is derived or secondary (*The Interpretation of Cultures*, quoted in Bruffee, 1984, p. 639).

Having established the social constitution of both conversation and thought and the causal relationship between them through a complex argument, Bruffee simply asserts the functional relationship.

> Since what we experience as reflective thought is related causally to social conversation (we learn one from the other), the two are also related functionally. That is, because thought is internalized conversation, thought and conversation tend to work largely in the same way. (1984, p. 639)

By way of an argument that turns philosophical observations into logical premises, Bruffee has brought us from Oakeshott's observation that rather than accumulating information, human beings "inherit" a "conversation . . . which goes on both in public and within each of ourselves" to the conclusion that social conversation teaches reflective thought ("we learn one from the other"), and both conversation and thought work the same way. His final conclusion is to equate the grammar of language to the grammar of thought.

> According to this concept of mental activity, many of the social forms and conventions of conversation, most of the grammatical, syntactical and rhetorical structures of conversation, and the range, flexibility, impetus, and goals of conversation are the sources of the forms and conventions, structures, impetus, range and flexibility, and the issues of reflective thought. (1984, p. 639)

This view replaces the idea that thought is an "essential attribute of the human mind" with the concept that thought is an "artifact created by social interaction" (1984, p. 640).

The equation of conversation and thought provides a good rationale for collaborative learning. Looking again to practical experience, Bruffee observes the following:

> What students do when working collaboratively . . . [is] talk about the subject and about the assignment. They talk through the writer's

> understanding of the subject . . . What students do when working collaboratively in small groups in order to read a text with understanding—a poem, a story, or another student's paper—is . . . converse. They converse in order to reach consensus in answer to questions the teacher has raised about the text. They converse about and as a part of understanding. In short, they learn, by practicing it in an orderly way, the normal discourse of the academic community. (1984, p. 645)

From this observation of collaborative activity, it would appear, for a literature class at least, that to engage in academic discourse is to talk and to understand (learn) is to reach a consensus about a text. The student must talk about a text before thinking about it. The teacher's role is to ask questions that will guide students from the discourse of their own community into that of the academic one. "Students are especially likely to be able to master that discourse collaboratively if their conversation is structured indirectly by the task or problem that a member of that new community (the teacher) has judiciously designed" (Bruffee, 1984, p. 643).

Bruffee's theoretical and practical models raise as many questions as they answer. First, they omit any insight into the relationship between reading and thinking. I am reasonably certain that Bruffee assumes that students read a text before they talk about it, but he doesn't consider that the ways they read a text influence the ensuing conversation. To understand how collaborative learning can take place in a literature class seems to demand some knowledge of the relationship between reading and cognition.

The second problem I have is with the issue of interpretive communities. Although Bruffee appeals to Fish (1980) for establishing the interpretive community's importance in reading literary texts, he doesn't satisfactorily negotiate Fish's claim of a right "to argue for a way of reading, which, if it became accepted, would be, for a time at least, the true one" (Fish, 1980, p. 16). Fish's privileging his own reading (with the interpretive community's "acceptance") suggests that the individual, not the community, shapes the initial interpretation at the same time that it posits an elite, authoritative community with censorship powers. This idea somehow seems different from the kinds of inclusive social communities Geertz and Vygotsky discuss and that Bruffee uses elsewhere in his essay to rationalize cooperative learning. The consequence of Bruffee's or Fish's understanding of the interpretive community implies that somehow the teacher must "teach" the academic community's reading if the students are to pass from their own community to the academic one. Even if Bruffee's ideal teacher is conceived elsewhere as nonauthoritative, the academic community's hat must be worn in a rather authoritative way that would seem to privilege academic conversation over student talk. Furthermore, the interpretive community's homogeneity has certainly not been established. One need only look at the array of current literary and critical theories to concede the disarray of academia's interpretive community.

Even if I acknowledge that interpretive communities exist and that a teacher can develop interpretive or reading "competence" by structuring questions and tasks, I still sense a problem. It is unclear what enables students to move from reading to talking to thinking to understanding. Bruffee's answer, as I understand it, lies in the community itself and its conversation. If this conversation is restricted to the "talk" of Bruffee's practical example, I am not convinced.

To gain an understanding of collaborative learning that considers how students read, what interpretive communities do, and how talk relates to knowledge, we need to move outside of literary studies to recent research in psychology and communication theory. Purves (1980) recounts recent psychological research demonstrating that when readers encounter literary texts, they come with "a complex set of schemata" that shape the way they read a text. The reader can see the text as an aesthetic object, become involved with reading, and emerge from reading able to enter into a complex analysis of the transaction with the text (p. 233). A schema is an existing mental pattern, or outline, that accommodates any new perception. In a sense, it approximates an expectation or prediction that the new phenomenon is to be understood in a certain way. Schemata are derived from specific phrases or sentences; repeated words, phrases, or events; perceived parallels or contrasts of objects or events; comparisons to other works or to genres; concentration on or analysis of a character, and perceived patterns of words, objects, or events (p. 230). Research indicates that readers acquire schemata partially by existing as perceptive beings, partially by being taught.

Literature teachers will immediately recognize the implications reading schemata hold for teaching. They explain why some students are more adept at aesthetic or critical reading than others. Their existence asks us to identify the schemata our students already have so that we can expand the ways they read. By understanding how students read, we can partially understand how collaborative learning works. When students talk about a text, they talk about the reading their own schemata have produced. When students discuss their readings in a group, they assist other students to expand their reading schemata. Purves, however, sees schematas' larger significance for pedagogy in terms of curriculum. For example:

> One might consider the genres and subgenres, and in particular the "classic" example . . . students should be exposed to a variety of critical schemata, including those that are personal and affective, those that are analytic, those which are interpretative, and those that are evaluative. (p. 234)

What Purves does not address is how the collaborative classroom can introduce ways of reading not already part of a certain group's interpretive community.

Here, I believe, we need to return to Bruffee's original premise drawn from Oakeshott about the continuity of the human conversation. Oakeshott seems to indicate that the human conversation includes the knowledge constructions of all communities. We can access this knowledge not only through literal conversations (talk), but through figurative conversation (discourse). This discourse exists not only with our contemporaries but with the past, the conversation "begun in the primeval forests and extended and made more articulate in the course of centuries." Our access to past communities is through the documentation they have left: texts. What literature teachers need to address, then, besides how students read assigned literary texts, is how the interpretive communities into which we wish to initiate students read texts and how they communicate about them. By encouraging students to engage in the larger conversation—with the past, with the academic community, and among themselves—the teacher can truly remove the authoritative hat of academia and become a resource. The teacher can mediate not between group members' conflicts but between the students' relatively small interpretive communities and the larger ones.

Suggesting that students read criticism and literary theory is hardly revolutionary; incorporating criticism into the work of the collaborative communities we create in classrooms, however, has not been theoretically reconciled. One of the problems, as I indicated earlier, is our understanding (or lack thereof) of interpretive communities. Fish tends to lead us down the road toward apparent contradictions by suggesting, on the one hand, that multiple individual readings exist, and on the other, that the reader must obey the interpretive community's procedures for reading texts. Discourse processing theory poses an alternative understanding of how interpretive communities work. De Beaugrande (1984) explains that researchers on discourse processing agree on the following:

> Discourse is meaningful and reliable . . . because discourse participants steadily collate and negotiate their processing results. In each discourse situation the participants build a model of what's going on, including what is being said and why. There is no guarantee that what the hearer or reader "means" will be identical with what the hearer or reader "understands"; people just assume that the uniformity of discourse models will be adequate for the purpose at hand, or if not, that it will be negotiated on the spot. (p. 534)

According to discourse theory, the interpretive community collates and negotiates its processing results. This process, however, is not arbitrary; "we must make the text into a system and assign functions to the elements of the text, merging what is said with what we know about the world and what we consider worth noticing and mentioning" (De Beaugrande, 1984, p. 534). De Beaugrande identifies what both individuals and groups do when they "process" texts: They privilege certain classes of evidence that correspond to what they "know about the world" and what they consider "worth noticing." This implies that different groups or communities may privilege certain kinds of information or readings but that the overall discourse proceeds in a remarkably orderly fashion. "Precisely because people are not compelled to mean or understand according to strict laws, human processing must be profoundly well organized in order to make communication possible and reliable." This is not to say that meanings are absolute and restrictive, but that "criticism can negotiate methods that promote convergence" (p. 558). If we apply De Beaugrande's considerations on discourse processing and criticism to collaborative learning in the literature classroom, we see that when students read and talk about the criticism of literary texts, as well as the texts themselves, they participate in a discourse community that both encompasses and extends their own interpretive communities.

Expanding Bruffee's "conversation" from text to discourse and identifying how students read and how interpretive communities operate may not significantly alter the collaborative situations we create in our classes, but it does suggest what our students do in their groups and how we can expand their interpretive communities. My approach to collaborative learning in my upper-division Shakespeare class bears some resemblance to Bruffee's early model in that groups of four or five students study a literary text and present their findings to the entire class. I have, however, tried to create a collaborative environment that engages the entire class in the largest "conversation" possible rather than one in which group research and report simply replaces teacher research and report.

My Shakespeare class considers one play a week, with the plays grouped by genre. Whether the course meets in a three-hour block or three one-hour classes a week, the first hour belongs to a student group. The students constitute their groups during the first week by choosing the play on which they wish to work.[1] I ask each group to introduce the play to the other students, providing information useful to someone unfamiliar with the play. I also ask that they discuss any problems they have had in reading the text and how they resolved those problems, as well as central critical issues and any critical controversy. The Riverside edition of Shakepseare's plays contains excellent introductions that provide a starting point (though my students assure me these are helpful only after they already know the play well). I also offer to meet with groups and help them in any way I can, which may mean suggesting recent critical or historical resources, or merely ordering a VCR. Beyond my initial guidelines, the students have complete "artistic" control over their hour. Their contributions are in no way graded or evaluated, although the important issues they raise about the plays often shape class discussions and, consequently, study and essay questions for exams. More often than not, students pursue research on "their" play for the term paper. With the one-week interval between each group hour, students learn from groups that presented previously what kind of information is most helpful and what kinds of presentations best engage the rest of the class and foster the liveliest discussions.

In examining these student collaborations, I see the relevance of both discourse processing theory and reading schemata. When the groups meet, they discuss the interpretation each student has built from individual reading schemata. In a Shakespeare class consisting partly of theater majors accustomed to reading scripts and partly of English majors attuned to reading metaphorically, collaboration on what the text "says" alone extends the students' reading. Additionally, if they become sensitive to identifying where they are having difficulty—and students nearly always have some difficulty with heavily footnoted editions of Shakespeare's language—they can be much better guides through the pitfalls of reading Shakespeare than I can (as one who is already accustomed to the language). The task of reconciling their own reading with the central issues addressed by critics and in turn explaining this to other class members who ask questions and enter the discussion is a case study of discourse processing in action.

While my Shakespeare course example gives us insight into how learning proceeds and how students are engaged in the "conversation of mankind" in a collaborative learning environment, it does not entirely demonstrate whether collaborative learning really represents educational excellence, or for that matter, something even marginally better than "expert" lecturing. I cannot offer exit exam data amassed over several years, or even comparisons of exam results for students taught collaboratively versus those taught traditionally. I can only offer some stories about these presentations, some thoughts on creativity, and some comments from my students.

Those of my students unfamiliar with collaborative learning inevitably balk at the idea of a group project and a class presentation. For the most part, they are concerned about public speaking, although some fear their grades will be jeopardized by lax group members. During one term, to relieve the students' anxieties about being center stage, I asked if they would prefer not to be graded. Given the amount of work necessary to teach one class hour, their overwhelming preference for foregoing grades both surprised me and left me a bit anxious about motivation. The resulting student-taught classes, however, proved my intuitive decision to suspend grades right and my anxieties wrong. Students consistently raised the most important critical issues about the plays we studied. They also provided useful study aids such as plot summaries, photocopies of sections of Shakespeare's sources, and bookmarks listing a play's characters. But most important, they engaged the other students in having fun with the plays. Let me explain.

Inspired by the film *Dead Poets Society*, the *Midsummer Night's Dream* group presented an overview and criticism wearing ivy wreaths. To emphasize the importance of music and dance in the play, ideas gleaned from the criticism, they provided music and performed a dance. In *Othello*, students representing Othello, Iago, and Desdemona, their places designated by roughly drawn portraits of their characters, debated which character was most responsible for the play's tragedy. Their arguments relied on the text and references drawn from literary criticism. We saw video clips from *The Tempest*, *Macbeth*, and *Henry V* and heard dramatic readings of scenes from *Romeo and Juliet* and *Hamlet*. These activities made the plays far more accessible to the entire class and made easy my task of leading the discussion and filling in gaps. The informality encouraged discussion and argument. The students' term papers reflected their interest in the plays and their engagement in 400 years of conversation about Shakespeare.

During the group hours in my Shakespeare class, students were involved collaboratively in discussing reading schemata and negotiating discourse. If student involvement is indeed a hallmark of eduational excellence, then I must conclude that we, the entire class, approached excellence. I cannot, however, take the credit. The really exciting part of the students' engagement was their creativity, which I had not foreseen when formulating my theoretical model. Recent research on creativity and motivation, which I found after the course ended, indicates that rewards do not motivate creativity.[2] Quite the contrary, creative people are rewarded by the creative act itself rather than any external incentives (Kohn, 1989). By removing judgment and evaluation (grades) from the collaborative experience, I inadvertently created an environment for student involvement better than the one anticipated in my theoretical model.

I have stated that collaborative learning is more than learning through talking in an interpretive community, as Bruffee suggested. It is talk shaped by students' reading schemata. It is talk become discourse by engaging the students' reading of the text with literary criticism's conversation. It is a larger discourse in which the text and the critical conversation can be negotiated collaboratively both in a small group and in the class as a whole. While this theoretical construct explains what happens in collaborative learning, it does not begin to touch the excitement students experience while learning in a collaborative environment. The following student class evaluations written in response to the question, "What are the specific things that you liked best about this course?" tell far more:

> Community atmosphere of class. It is "ours" not hers.
>
> Collaborative learning—what a concept!
>
> The format is great. Having a group for each play was an excellent idea. As much as I hated it, it got me thinking intensely on at least one play.
>
> I feel this is the only way to teach a literature course; I always retain and comprehend much more in this type of atmosphere.
>
> I thoroughly enjoyed this class and feel like I have 100% better understanding of and appreciation for Shakespeare.
>
> With this approach it encourages all the students to work hard and help one another. *Excellent.*

References

Astin, A. (1985). *Achieving educational excellence.* San Francisco: Jossey-Bass.

Bruffee, K. A. (1973). Collaborative learning: Some practical models. *College English, 34,* 634-643.

Bruffee, K. A. (1984). Collaborative learning and the "conversation of mankind." *College English, 46,* 635-652.

De Beaugrande, R. (1984). Writer, reader, critic: Comparing critical theories as discourse. *College English, 46,* 533-538.

Fish, S. (1980). *Is there a text in this class? The authority of interpretative communities.* Cambridge, MA: Harvard University Press.

Kohn, A. (1989, December 4). Reward and creativity. *Los Angeles Times,* p. B2.

Purves, A. C. (1980). Putting readers in their places: Some alternatives. *College English, 42,* 230-236.

Footnotes

[1] Unpublished research on collaborative learning models suggests that groups work best when they contain four or five students and are balanced in terms of student abilities, gender, and ethnic background. Such carefully planned grouping may be especially desirable when collaborative learning projects extend for the entire term and represent a significant part of the grade.

[2] The work by Teresa Amibile (Brandeis University), James Garbarino (Chicago's Erikson Institute for Advanced Studies in Child Development), Richard Ryan and Edward Deci (University of Rochester), and Mark Lepper (Stanford University) is surveyed in Alfie Kohn's *Los Angeles Times* article.

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Teaching With Cases

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As college and university teachers search for ways to energize their classrooms and activate learning, interest in the case method has begun to emerge. Long used in schools of business, case method teaching has only recently sparked enthusiasm in other disciplines. In this paper, we will discuss case studies and how they might be used effectively in areas outside of business to engage students in the active pursuit of knowledge and the application of theoretical constructs.

We will limit ourselves to describing the type of case study used in business schools: what might be called the "problem-solving" case study. This is not to argue that other case study models—law, medicine, social work, psychology, and the newer narrative model under development in schools of education—are not useful pedagogical tools. It is only that attempting to describe all the various kinds of case studies now being used is beyond the scope of this paper.

Simply stated, the business case study is a story based on an actual situation in business, but the story has no end, leaving the student-reader puzzling over how it might be resolved. Though business cases may be short and simple or richly detailed and multilayered in problems, they share the distinction of being based on reality and ending with a problem or dilemma to solve. Also, these cases are written for pedagogical purposes. Without the energy

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This article is based on a seminar conducted at the Eighth Annual Lilly Conference on College Teaching, November 4-6, 1988, Miami University, Oxford, Ohio, and at the First Annual Lilly Conference on College Teaching-West, March 17-19, 1989, University of Callifornia Conference Center, Lake Arrowhead, California. This case and teaching note are part of a collection of more than 30 case studies developed over the past two years in a project supported by a FIPSE grant. Those cases will be published by McGraw Hill in 1991 in a book entitled *Case Studies for Teacher Problem-Solving.*

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and enlightenment of the discussion that follows the individual analysis of the case, case studies do not make a particularly lasting contribution to the literature in a field. More than any other classroom materials, they are created to be taught.

Further, faculty who teach with case studies establish certain nontraditional learning objectives for their students. Rather than expecting students to come up with the right answers to the problems in the case, case teachers expect students to develop their analytic and critical thinking powers so as to be able to understand situations, to identify and frame problems, to evaluate possible solutions, and to begin evolving general principles that apply to other situations. The learning process combines traditional individual homework and the sharing of this individual thought with other students in a carefully designed learning community: the case discussion class. Cases are rather like laboratory experiments designed for the social sciences and humanities in that they present real situations for practice in analysis, problem solving, and theory building. For the college teacher, the key skills are designing or selecting the appropriate case and managing the discussion process.

Cases following this model fit naturally into the curriculum of a preprofessional discipline that, like business management, prepares students for a real life of problem solving and decision making. This case model is also appropriate for the social sciences, where students learn to understand how individuals and groups behave in various environments. One such discipline is education, and it is in this area that we have begun to develop cases along the business school model for use in teacher preparation courses.

Teachers must be prepared to handle unanticipated situations, to adapt current knowledge to deal with new problems, to learn radically new things—in short, to deal constructively with change. So that teacher education programs can prepare teachers to act creatively and intelligently in the classroom, the courses prospective teachers take must become more like training laboratories in which real teaching situations are confronted, thought through carefully, and acted upon. Students must have the opportunity to bridge the gap between theory and practice. To do this, they must be encouraged to become thoughtful, creative problem solvers. Students need practice in analyzing problems, asking important questions, considering various responses, arguing for or against different solutions, and seeking more than one answer to a problem. To become successful teachers, they will need to learn to think through problems so that they can arrive at effective solutions.

Because cases help learners understand concepts by actually experiencing them, figuring them out independently, and grappling with their nuances and subtleties, it makes sense to explain case studies further by providing an actual case and looking at ways that it might stimulate a rich discussion. Presented below, therefore, is a teacher education case, *Leigh Scott*, and an accompanying *teaching note* suggesting how a productive class discussion might be developed around the case.

Leigh Scott

Leigh Scott felt the flush slowly leave her face as she watched Aaron Washington exit her classroom, slamming the door behind him. It was the end of the second grading cycle; students had received their report cards yesterday. Leigh had just taken off her coat and was on her way to the teachers' room to get a cup of coffee before the bell rang when Aaron came into the room.

He began, "We got to talk about my American Government grade." It was clear that he was angry.

Leigh moved to her desk and responded, "What's the problem?"

"You gave me a D."

"You did D work."

"So did Dale, and he got a C." Aaron was leaning over the desk toward Leigh.

"Aaron, this isn't a good time to talk about this. The bell is going to ring in a few minutes. Why don't you see me after school this afternoon?"

Aaron shook his head. "I have practice after school. We have to talk now."

Now it was Leigh's turn to shake her head. "This isn't a good time. I have to get ready for homeroom. Besides, there's not really anything to talk about."

Aaron straightened up, took a couple of steps back from the desk, and said, "You gave a white kid who got the same grades I did a C, and you gave me a D. I even did more homework than Dale. I say we have something to talk about."

Leigh capitulated. "Come in tomorrow morning at 7:30, and we'll talk before homeroom."

Aaron nodded, strode out of the room without another word, and let the door slam as he left.

Leigh had taught social studies at Littleton High School for 11 years, and this was the first time a student had accused her of racial bias. Students had complained about grades before, and Leigh had always been willing to reconsider a grade. But she had never had a student suggest that she was biased. Leigh had spent her entire teaching career at Littleton, so she had taught racially and ethnically mixed classes for a long time. She considered herself colorblind when it came to assigning grades.

Littleton High School, a sprawling building without much personality or character, was built in the 1950s. Academic departments were located along different wings of the building. Students were placed into one of four academic tracks: honors, regents, average, and remedial. There were 11 social studies teachers, one of whom served as department chair. Teachers were responsible for five classes a day, with the honors classes typically assigned to senior faculty. Newer faculty taught mostly average and remedial sections. Leigh taught a senior honors-level American History course, two freshman regents sections of World History, and two sophomore average-level sections of American Government.

Leigh graded her two sophomore American Government sections on the following requirements for each cycle:

- Tests (usually three or four, depending on the material)
- Homework that was collected three times a week
- A project
- Participation in class discussions based on textbook readings

The textbook was written on an 8th-grade reading level. Leigh's tests were a combination of vocabulary, multiple choice, and short answer items. She didn't require students in the average sections to answer essay questions. Students selected projects from among several options, including writing papers, constructing something appropriate to the topic, presenting a paper to the class, or writing book reports on pertinent readings.

During homeroom, Leigh consulted her grade book and confirmed that Aaron's information was accurate. Neither he nor Dale had done particularly well during the past grading cycle. Both had gotten mostly Ds, with an occasional C. Neither had participated in class discussions unless called upon. However, she knew that she had given Dale the higher grade because of his effort, not because of his color. Dale was a learning disabled student who was mainstreamed into Leigh's class.

Typically, a mainstreamed student would be placed in a remedial section. Dale's case was an exception. He was in an average-level class because his Resource Room teacher, Meg Dament, had requested this placement, believing that Dale needed a more academic environment and a higher achieving peer group than he would have in a remedial section. Meg and Leigh had known each other since Leigh came to Littleton. Leigh admired Meg's dedication and perseverance on behalf of her students. It was not easy to convince high school teachers to work with classified students, but of the four Resource Room teachers at Littleton, it was Meg who made the most regular class placements. It was clear that she cared deeply about the students she served and wanted them to have whatever educational normality she could arrange for them. Meg was able to mainstream her "best" students into average, not remedial, classes. She actively sought teachers who would be responsive to her students' needs and efforts. Meg had requested Leigh as Dale's teacher. Leigh had understood that Dale was not a very good reader and that he would not volunteer in class. Leigh and Meg spoke regularly about Dale's progress, as well as the classroom requirements. Meg helped Dale prepare for Leigh's class, and he had shown real improvement since the first cycle, when his grade had been a D.

Furthermore, Dale's attitude in class was positive. He had learned to exhibit "teacher-pleasing behaviors." He looked attentive; tried to take notes; almost always carried his textbook, notebook, and a pencil; and never disrupted the class. Aaron had a different style. He put his head on his desk, seldom brought materials to class, and often talked to friends while Leigh was lecturing.

Nevertheless, the two students' grades during the cycle were nearly identical, and Aaron was demanding an answer. Leigh drove home that day wondering what she would tell Aaron during their appointment the following morning. Aaron's anger, coupled with his charge of racism, exacerbated her anxiety about their meeting. Leigh also knew that she would have to figure out what she might do to prevent this from happening in the future, because she anticipated that she would continue to serve mainstreamed students, and she believed they should be rewarded for effort and improvement.

Teaching Note: Leigh Scott

This case, as do most reality-based cases, presents several quite different discussion topics. You could choose to focus on grading, mainstreaming, racial bias, or confrontations with students. These are all multifaceted, controversial issues backed by theoretical constructs and about which both experts and neophytes have strong differences of opinion as to how they should be dealt with in the reality of the public school. Obviously, you should select the issue(s) to emphasize based on the course in which this case is used and the knowledge students have when the case is presented. Each issue is complex, however, because each is affected by the others. Thus, the question of grading policies cannot be discussed in the abstract but must be understood in the context of mainstreaming and a multicultural society in which racism exists. You need to think carefully about how to approach this complexity. Should each issue be discussed separately? Or should the discussion deal with all the problems at the same time, moving back and forth from one to the other? Our suggestion is the latter; it is a more difficult discussion to handle, but ultimately more satisfying. We have provided a discussion plan that centers the case around the grading issue.

Blocks of Discussion

Grading

The case revolves around the grading policy of Leigh Scott. There is enough information in the case to outline her policy and to begin analyzing it. Rather than discuss grading theory in the abstract, it is better to discuss Leigh Scott's particular theory. The class should identify how she awards grades, for what purpose she uses grades, the strengths and weaknesses of her system, and alternative systems she might have used. Certainly, inherent in this discussion is the question of the relative objectivity/subjectivity of grades and whether appropriate teacher-pleasing behaviors should be considered. Also, the issue of evaluating the performance of mainstreamed students is central to this discussion. Should they be graded on the same scale using the same standards that are applied to regular students, because they are, after all, being mainstreamed? Or should their shortcomings be recognized and their progress in spite of their handicaps be rewarded? This discussion turns again to the question of the purpose and meaning of grades. Grades are a reality for every teacher in almost every teaching situation, yet few educational systems encourage teachers to think seriously about grading, perhaps because when taken seriously, grading is among the most agonizing tasks teachers perform. There is, or should be, a guiding rationale for grading in every teacher's mind. The discussion can have greater depth if theoretical reading on grading is assigned to accompany the case.

The grading discussion provides an interesting opportunity for "trading places." Students might be challenged to comment on the grading philosophy of your class, especially the weight given to participation and the method used to account for it. Have you made the mechanics of your system clear? Have you made its rationale clear? Should you? Discussions sometimes become meta-discussions. Be ready for them, and even encourage them, if you have thought it out ahead of time.

Mainstreaming

Since the enactment of Public Law 94-142, teachers have had students in their classes who cannot succeed in meeting standard classroom requirements. A decade earlier, most of these students were served exclusively in special education settings. Many teachers have been reluctant to accept classified students in regular education, and, as Leigh points out in the case, high school teachers have been the most hesitant. The rationale for mainstreaming a student like Dale, who cannot read the textbook, is that it is more important for him to learn age-appropriate social skills than the content of the course. Clearly, Meg Dament believes that; she fights to have her students mainstreamed into average-level instead of remedial classes. Leigh agrees with Meg. She is prepared to reward Dale's effort, despite his low skills.

Some students will be uncomfortable with the concept of social mainstreaming. They will argue that the problems could have been avoided if Dale were in a remedial class and that a student who cannot read the textbook should not be in the classroom. This discussion is an important one to encourage, particularly if you are prepared to challenge the students who propose these views. Discussing the pros and cons of mainstreaming may allow students to rethink a more narrow view of this topic. But you must make sure that the discussion does not stall on this point. The students will have to be reminded that the problem exists: Dale is in Leigh's class, and she gave him a higher grade than she gave Aaron. Was that fair? Should mainstreamed students be judged by a different standard? Should any students be rewarded for effort, classification issues aside?

Racial Issues

Aaron is black and accuses Leigh of racial prejudice. This issue certainly complicates the behavioral issue discussed below. Because it is on Leigh's mind, it will affect her meeting with Aaron. This is an emotionally charged issue, one that cannot be avoided just because your students are reluctant to talk honestly and rationally about it. It is clearly a problem that will arise more than once in most teachers' careers as our schools become increasingly multicultural. Perhaps it would best be handled by asking your class to act as an advisor to Leigh Scott. How should she prepare herself for a repeat of Aaron's accusations? How can she test herself to make sure she has not been influenced by racially biased feelings? How can she help Aaron learn how to deal with racism and how to distinguish between honest judgment and prejudice?

Behavioral Implications

Leigh Scott is in a particularly uncomfortable situation with respect to teacher-student relations. Your class needs to reflect not only on how she should handle the upcoming interview with Aaron, but whether she should have agreed to the conference on the terms stated. Thus the discussion should turn on both what to do and whether she should have done what she did (foresight and hindsight). We are not always keen on allowing hindsight discussions, for obvious reasons, but in this situation, it may prove helpful. Leigh's handling of the original contact with Aaron may not be entirely without problems. Should she have let Aaron challenge her grading system so easily, especially when that challenge was based on a comparison (and a rather detailed comparison, at that) of his grades with another student's? Usually students do not have the opportunity to make such complete comparisons, and, of course, Aaron misses the complexity of the problem, because he does not have the grades of the other students in the class with which to compare his.

Clearly, advice to Leigh on her future action should rest on the philosophical discussion of grading policy as suggested above, but we should also pay attention to other questions. What outcome does Leigh hope for from the encounter? Can she gain something or only avoid losses? How about Aaron? Can he "win" something too? Where should the conference take place: classroom, office, hall, playground? Should Leigh stand or sit? Should she be tough or tender? Is she ready to handle the racism charge if it comes? This is a good opportunity to raise and discuss with your class these very important behavioral issues that constantly present themselves in teaching. Teachers need to be aware of these issues, to ponder them ahead of time, and to understand that the more control teachers can exercise over every aspect of their professional lives, the more successful they will be.

Suggested Question Outline

1. Does Aaron have a legitimate complaint? Is Leigh Scott's grading system fair?

   Questions:

   A. Explain the system. How much of the system is explicit? How much should be?

   B. How does Leigh award grades? What does she reward? What does she punish?

   C. For what ultimate purpose does she use grades?

   D. What are the strengths and weaknesses of her system?

   E. How would you improve the weaknesses of her system?

2. Do mainstreamed students require a different grading system, or should it be the same as for regular students? How/when should this be determined?

3. What do you think of the grading system in our class? Is it fair? What are its strengths and weaknesses?

4. Should Leigh have accepted Aaron's challenge to her grading system by agreeing to hear his protest?

   Questions:

   A. Is Aaron's comparison with Dale fair?

   B. Should a teacher allow a student to protest a grade?

   C. Should a grade ever be changed? Under what circumstances? How about the grades of students who did not protest?

5. How should Leigh prepare for the meeting with Aaron? What does she want to happen? for her? for Aaron?

   Questions:

   A. Should she be ready to change Aaron's grade?

B. Should she be ready to revise her grading system?

C. Where should the meeting take place? classroom? office? hall? Is it important?

D. How much does she want to encourage the questioning of grades?

6. How should Leigh handle the accusation of racial prejudice?

Questions:

A. How should Leigh treat Aaron? as a troublemaker? as a serious student with a legitimate grievance?

B. How can she test herself for bias?

C. How can she help Aaron learn to deal with racism?

Suggested Board Outline

A case discussion teacher must strive for balance between a lively, freewheeling discussion full of creative thinking by the participants and the need to control the discussion so that it leads somewhere and fits into the objectives of the course. This is a truly delicate balance and may be a key element of the artistry that sets brilliant teachers apart from the rest of us. Teachers just beginning to consider using more discussion are most fearful of losing control of their classes. As proposed earlier in this teaching note, we suggest that teachers set objectives for the case discussion and carefully construct a series of questions that will help the class meet these objectives in order to maintain control over the discussion. The chalkboard will be useful in this effort, as you signal important discussion points by writing them on the board. If the discussion is planned carefully, the chalkboard will be an important tool in organizing what seems to be an unrestrained, disorganized discussion. Think ahead, at least in terms of general categories, with respect to what you want to record on the board and what you want the board to look like at the end of the class. For this discussion, the board categories might include:

Leigh's Grading System	Mainstreaming	Options for Meeting With Aaron
Aspects	Characteristics	Location
Pro/Con	Pro/Con	Attitude Opening

Summary

Leigh Scott is a deceptively short case that will probably lead to a complex and contentious discussion, although you may need especially to encourage the participation of younger students who have been on only the receiving end of grades and may be reticent in voicing their concerns about grading. It is worth reinforcing at the end of the class that grading is not just a matter of averaging several individual scores at the end of each term. There are many choices, many options. There are strengths and weaknesses in every system. But every teacher should base a grading system on an overall educational philosophy and relate grades to teaching objectives. Every teacher should ask and answer the question, For what purpose am I using grades? Every teacher should consider the implications of the grading system.

Assignment Questions

If you want case discussions to be productive learning situations, be sure to emphasize that students are required to read the cases before discussion in class. To reinforce that message, we suggest providing students with questions to think about while preparing the case. If you have assigned theoretical material to accompany the case, this is an opportunity to encourage connections with the case.

1. Should Leigh consider changing Aaron's grade?
2. How objective should a grading system be? Do students deserve special recognition for effort? Do mainstreamed students require a different grading system?
3. How should Leigh prepare for the meeting with Aaron?

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Researching While Teaching: A Collaborative Action Research Model to Improve College Teaching

Michael Schratz
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Answers Don't Come Easy

- *My students don't prepare for class the way I want them to. What can I do?*
- *How can I increase student participation in class?*
- *What are some alternative methods for assessing students' learning at the end of the course?*
- *How can I introduce material to create a more stimulating classroom atmosphere?*

Questions like these are frequently asked by faculty regardless of disciplinary background. Unfortunately, faculty do not always reach the people who might be able to offer help in answering such questions (or, one might argue, those who could offer help do not always reach the faculty who need it!). These questions are often raised after committee meetings, during lunch, or at campus recreational activities where faculty members meet informally after classes. In these settings, however, the questions are seldom dealt with professionally, let alone answered to the faculty members' satisfaction. More often, discussions of these issues become lengthy arguments about the lower quality of students in comparison with those of earlier times or other places.

This article is based on a presentation made at the First Annual Lilly Conference on College Teaching-West, March 17-19, 1989, University of California Conference Center, Lake Arrowhead, California.

Michael Schratz *teaches education at the University of Innsbruck, where he chairs a commission on the improvement of higher education. He is editor of a series on continuing and higher education, Impulse für Erwachsenenbildung und Hochschuldidaktik, and Gehen Bildung, Ausbildung und Wissenschaft an der Lebenswelt vorbei?, a collection exploring whether everyday knowledge and formal education/ scientific knowledge contradict one another. Professor Schratz was on sabbatical during 1988-89 at the University of California, San Diego.*

Sykes states, "The debate over higher education often pits teaching versus research" (1988, p. 101). "Ideally," he argues, "teachers should lead students to knowledge by showing them their own process of learning through thought" (p. 62). Lectures, which generally dominate teaching on university campuses, leave little room for conveying this process. Instead, students are usually provided with the *products* of their professors' or others' research in the form of textbooks.

The teaching assistant system has eased the problem to some extent by helping students to digest the reading materials. Even so, valuable discussion time for reflective processes often yields to question-and-answer sessions in class. That is why the questions mentioned above are also heard among teaching assistants.

In many cases so far, activities aimed at improving teaching, and thus trying to answer faculty questions, have had no more than short-term effects. Although these activities aroused faculty interest while under way, they generally failed to prompt instructional staff to reflect on their teaching practices over a longer period of time. In contrast to research practices, which can be characterized as an ongoing attempt to discover new findings in one's field, teaching practices soon become routine and remain at the same level once established.

To bridge the gap between advancement in teaching and research, we need to create new incentives by turning teaching into a research process. The classroom can be a lively research laboratory with the various situations teachers encounter daily. How much do we know about the way students receive the lessons teachers deliver? Are students exposed to their professors' learning and thought processes? Do students have the opportunity to develop their own thoughts, which, according to learning theories, are essential for information processing? These questions differ from those stated earlier, because they focus on the *process*, rather than the outcome, of teaching. Most everyone in the academic profession knows from doing research that the product becomes increasingly sophisticated the more one rethinks and reinterprets the scientific data in the creation stage.

At the University of Innsbruck, an informal study was conducted to learn more about the needs and interests of faculty who wanted to improve college teaching. This study was based on previous findings showing that faculty were generally motivated to improve their teaching skills even though their main interests lay in their disciplinary fields of scientific research.

Search for a Perspective

In 1986 the preliminary findings of this study as well as previous attempts to improve college teaching were discussed by a senate's commission at the University of Innsbruck. Based on the faculty needs and expectations identified in the analysis, the commission determined that a pilot project to improve teaching should meet the following requirements:

- Consider the needs and interests of everyone involved, that is, students and teachers, irrespective of their disciplinary background.
- Accord teaching the same status as is usually given a research interest.
- Aim at longer involvement to allow more time for reflective activities.
- Start working with the participants at their present level of teaching.
- Include students' reactions in the formative evaluation procedures.
- Use the participants' continuing teaching commitments as a basis for further reflection.
- Follow a cooperative design not subject to disciplinary thinking or a monadic, isolated approach.
- Develop self-evaluation practices that enable the individual to examine teaching as an ongoing research activity.

A project covering all of these aspects would require an ambitious design and large-scale supervision. Because support for such a comprehensive program was unavailable, we had to find an approach that would provide for both effective individual consultation and practical application in the teacher's own classroom. Accordingly, we chose to model the pilot project on Schön's concept of *reflection-in-action* (1983, 1987) and *action research*. Under this program, an initial consultation would be followed by a continuing process of critical reflection aimed at improving professional practice. Reflection-in-action and action research are "simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their practices" (Carr & Kemmis, 1986, p. 162).

Action research concepts have been applied in various fields, such as management and personnel training (Whyte, 1964), administrative and organizational development (McGill & Horton, 1973), and particularly in education (Gregory, 1988; Hustler, Cassidy, & Cuff, 1986; McKernan, 1988; Oldroyd & Tiller, 1987) and teacher training (Elliott, in press; Goswami & Stillman, 1986). Although "talk of promoting teachers' based action research in schools as a process of educating teachers to be reflective practitioners is sweeping through faculties of education in universities across the world" (Elliott, 1989, p. 1), this concept has been applied only recently to the improvement of practices in higher education.[1]

Teaching as a Research Process

To introduce the action research project, entitled "Researching While Teaching" (RWT)[2], interested faculty and students were invited by the chancellor to an orientation meeting. Because the project title did not adequately reflect the meaning behind it, we included in the written introduction to the first meeting a statement of philosophy and purpose, which can be summarized as follows:

What is RWT? It offers an opportunity to gain new insights into one's own practical theories that guide one's teaching and learning. It may be viewed as research-based, in-service training to improve and modify teaching practice.

How does RWT work? Interested faculty are provided with practical methods for collecting and analyzing data on teaching in higher education and are encouraged to apply these methods to their own teaching practice.

What does RWT do? It provides the college instructor with a deeper understanding of what he or she wishes to accomplish in the classroom.

Who can benefit from RWT? Everyone who is willing to become a researcher of his or her own teaching, with the goal of improvement.

About 50 faculty members and graduate students representing all disciplines at the University attended the orientation meeting to learn more about the action research project, RWT. The participants were first asked to express their problems, difficulties, and worries related to their teaching in a university setting, to find a mutual objective for research into the underlying processes. Each participant received a sheet of paper on which an illustration of a magnifying glass was printed. Inside the magnifying glass, each person expressed problems, fears, or expectations concerning teaching. Some wrote short essays, while others free-associated by drawing pictures. This introductory exercise served as the focal point for later observation and analysis in the RWT project.[3] The completed sheets were placed on the walls and studied by everyone, leading to lively discussions among the participants.

The public display of teaching concerns and interests helped to reassure that no one was alone in certain thoughts and worries. These discussions were used by members of the faculty development group[4] to shift the teachers' attention to a more systematic analysis of what was actually going on in their classrooms. "The basic premise of classroom research is that teachers should use their classrooms as laboratories to study the learning process as it applies to their particular disciplines: Teachers should become skillful, systematic observers of how the students in their classrooms learn" (Cross, 1988, p. 3).

From Supervision to Self-Reflective Practice

Because most of the orientation meeting participants had no previous experience with classroom research, they were given a brochure providing suggestions and support material for the documentation of, reflection on, and exploration into their teaching practices.[5] After the initial presentation and discussion, it was suggested that the participants undertake independent, small research tasks such as observing certain aspects in the teaching process, examining students' behavior, and getting instant feedback in the classroom.

It was important for faculty to use the instruments and techniques described in the brochure so that they could:

- keep the motivation gained from the orientation meeting.
- have as little extra work as possible in the preparation of their teaching.
- show immediate results from their first application in the classroom.
- feel confident as researchers of their teaching.
- receive feedback material for the next plenary session.

The pilot program participants presented findings from their research activities during several plenary sessions in the weeks that followed. The findings were then discussed either by the whole group or in small groups according to thematic areas and problems. These meetings served two main purposes: (a) They insured that the participants were not left alone if any problems or questions arose in their initial attempts, and (b) they encouraged faculty to exchange experiences and thereby learn different and even more challenging research approaches to try in their classes.

In the first plenary meeting, most of the participants had questionnaire results to be discussed. Questionnaires seemed to be the most popular, best, and often the only known method to obtain feedback from students. The discussions soon showed, however, the weaknesses of such quantitatively oriented research instruments. These discussions proved to be a valuable activity for directing the participating faculty toward qualitatively oriented forms of classroom research. The shift could be characterized as one from traditional positivist approaches to phenomenological methods and techniques (Fetterman, 1988).

It seems appropriate to discuss these findings at this point, because they suggest at least a twofold socialization experience that must be taken into account when engaging faculty in classroom research. First, the forms of evaluation that most university teachers were confronted with in their own careers, both as learners and as teachers, can be described as summative evaluation. Therefore, the focus of interest was primarily on the product rather than the process of teaching. Second, the research methods in their academic disciplines were almost exclusively quantitative, emphasizing objectivity gained through "valid" data rather than the subjective realities of human perception.

In the first few plenary sessions, it was necessary to support the participants in moving from their socialized forms of summative thinking toward more formative views of research in their own classes. Smyth (in print) argues that teachers have to confront their work in the classroom "critically," in the act of teaching itself. "The starting point lies in teachers theorizing their own practice in ways that involves them in coming to see how their own understandings have become limited and distorted by noneducational forces, such as institutional structures and political constraints" (p. 10). In this sense, action research is at the same time a political process geared toward change in professional practices as well as an attempt to improve teaching at the moment it is analyzed.

It was helpful, therefore, not to answer the questions teachers brought to the first plenary meetings. Instead, the participants were encouraged to question more specifically what actually took place while they were teaching. This led to an ongoing reflection process in which instructors tried to answer the following questions: "What happened? Why did it happen? What was my role? What beliefs did my actions reflect? Did my actions reflect beliefs and assumptions about which I was not aware? Did the consequences of my actions raise doubts or reinforce my beliefs? How should I want to act in the future on the basis of what happened?" (Posner, 1989, p. 26).

RWT in Action

After the initial phase of working as a group, smaller groups were formed so that the participants could focus on certain areas of interest in which they wanted to use action research methods more extensively. The groups set short-term and intermediate objectives for their research and were assisted by members of the advisory commission who had previous experience with action research. The commission members accompanied and supervised the faculty at times, but most of the practical research into teaching was conducted by individual members of the group. It is important to stress that each participant assumed responsibility for his or her classroom interventions.

It would be difficult to describe all of the phases the small groups went through during the RWT project, mainly because progress varied according to the different dynamics in the respective groups. Although there are no "results" in the conventional sense that can be verified as applicable to other situations, I want to describe selectively some of the groups' research activities which I consider to be of general interest.

One of the small groups studied the effect of using audiovisual aids in lecturing, apparently a common interest across the disciplines. The group examined two applications of audiovisual media: as instruments for enhancing the effectiveness of lectures (for example, use of overhead projectors or video equipment) and as supporting devices to evaluate one's teaching performance.

The audiovisual group consisted of 6 to 10 faculty from mathematics, physics, medicine, and educational studies. Apart from individual research activities in class, the group met about three times each term for about two hours. The first feedback came from students' answers to simple questions regarding concerns of the individual teachers, such as: What do students like most/

least? When is it most difficult to follow the lecture? What do the different media contribute to the learning process?

After discussion of the data in class and analysis of the results in the group, a media expert from the technology center of another university was invited to discuss with the group the latest findings concerning the use of media in college teaching. For example, several possibilities of the "open" use of media in class were discussed to find a meaningful way of engaging students actively in learning rather than allowing them to be passive viewers or listeners. Consideration of the other application, using audiovisual media as supporting devices to evaluate an individual's teaching, led to videotaping of teachers in action.

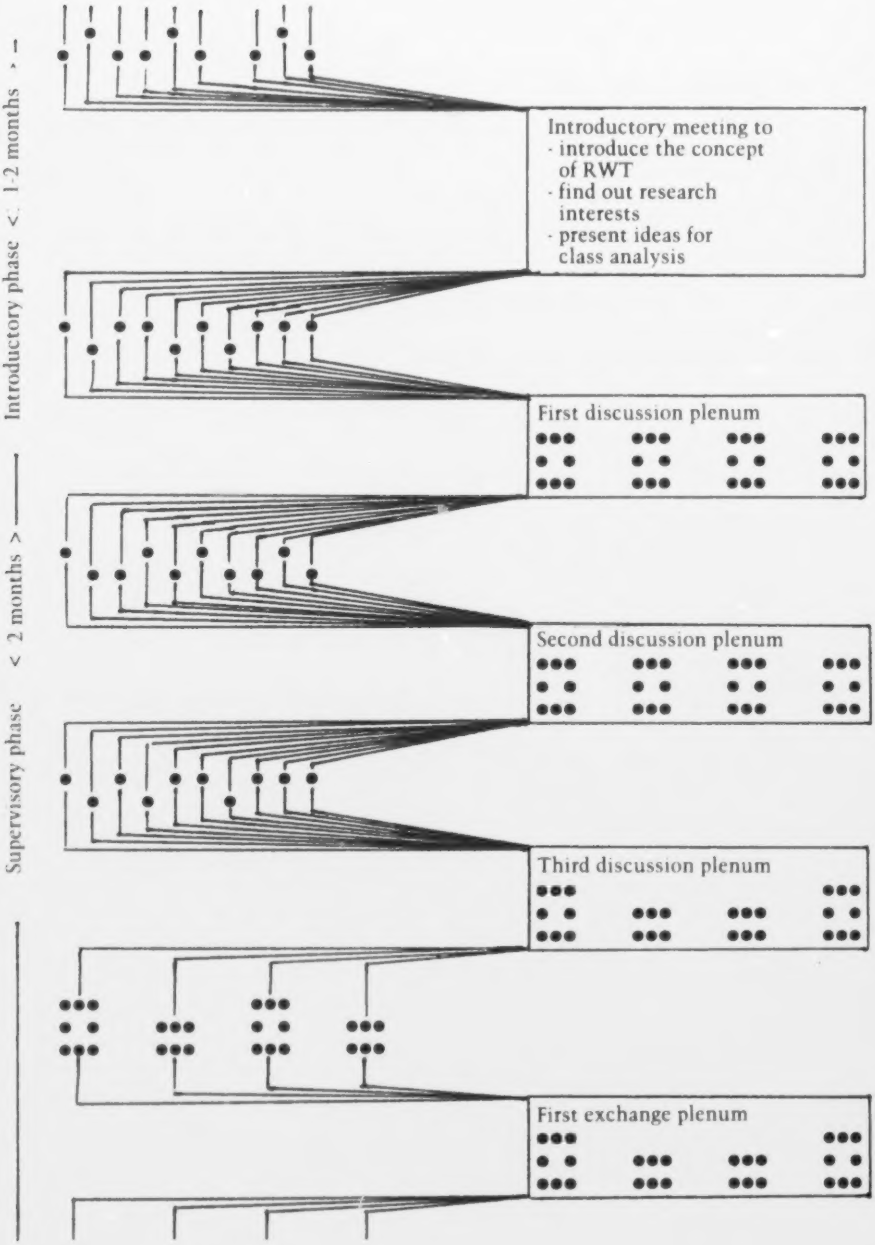
Another small group tackled the problem of large-class lectures, in particular the challenge of assessing student performance in this setting. Traditional assessment strategies cause students mainly to memorize facts rather than learning their meaning within a broader context. To deal with the problem, assessment techniques would have to be closely connected with the learning processes themselves.

At first, a few students were interviewed about their learning strategies when preparing for an exam. The results were then discussed in the group, leading to an analysis of alternatives to solely fact-oriented forms of assessing student achievement. The group developed new forms of assessment, which were tried in different disciplines, and the results were discussed thereafter. By using the advantages of case studies in different assessment situations, participants understood that assessment strategies can have greater depth if they are modeled on real-life demands. Similarly, exams in group arrangements led to a more intensive argument between students and teacher. In addition, log books provided a tool to deal with the affective part of the learning process and highlighted aspects that had often been neglected in previous discussions.

Toward Continuing Reflection-in-Action

In the RWT pilot project, the progression from plenary meetings to group sessions and self-study activities was initiated to support the participants in their "new" fields of research. There were no set rules for the allocation of time in the individual phases. We found, however, that it takes time for the participants to become comfortable in this new research domain.

Once they have experienced their classroom as a valuable resource for assessing the learning process, the participants improve their own teaching by becoming more reflective about what is occurring in the interaction between the students and the teacher. In the following flowchart, the action research process is divided into individual phases as they occurred in the pilot program at the University of Innsbruck. The chart shows the approximate amount of time allocated to each phase.


Introductory phase < 1-2 months >
Supervisory phase < 2 months >
Introductory meeting to
- introduce the concept of RWT
- find out research interests
- present ideas for class analysis
First discussion plenum
Second discussion plenum
Third discussion plenum
First exchange plenum

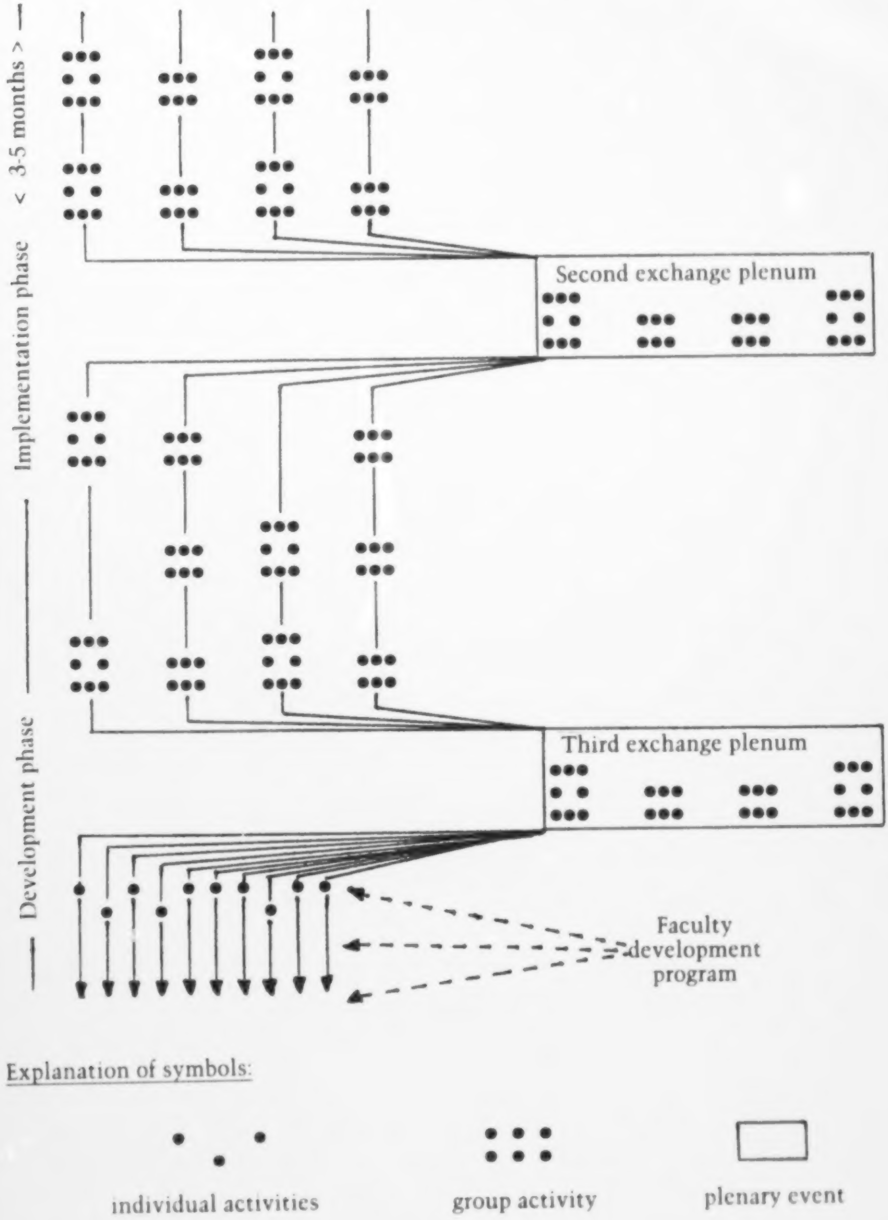


Figure 1. Phases of development in RWT project.

The plenary sessions, which occurred less often in the second phase, contributed to an exchange of ideas on a broader level. The purpose of these meetings was no longer to introduce or supervise RWT; instead, the plenary sessions became a kind of "marketplace" for the exchange of experiences. Similar to conferences in disciplinary fields where researchers present their latest findings, these meetings found action researchers across the disciplines discussing their latest findings in research on teaching. Although action research sometimes meant spending more time on teaching, most participants achieved greater satisfaction with the new approach. One faculty member remarked, "By dealing more intensively with my teaching commitments, I got more joy out of them, which also contributed to the good mood I felt in class."

After assessing the RWT pilot project at the University of Innsbruck, we concluded that the action research approach to teaching in higher education is a valuable experience. Looking into one's own teaching practice through the eyes of a researcher is rewarding for both faculty and students if they are willing to venture into this "rich and virtually untapped resource for the improvement of teaching" (Cross, 1987, p. 6) and learning. Moreover, developing collaborative self-reflection about teaching experiences can turn the action research process into an "exercise in ideological deconstruction" (Elliott, 1989, p. 1), which could contribute to reviving the distinguished academic culture of higher learning in this time of large classes.

References

Carr, W., & Kemmis, S. (1986). *Becoming critical.* London: Lewis Falmer Press.

Cross, K. P. (1987). Teaching for learning. *Bulletin of the American Association for Higher Education, 39*(8), 3-7.

Cross, K. P. (1988). In search of zippers. *Bulletin of the American Association for Higher Education, 40*(10), 3-7.

Elliott, J. (1989, March). *Academics and action research: The training workshop as an exercise in ideological deconstruction.* Paper presented at the annual conference of the American Educational Research Association, San Francisco.

Elliott, J. (in press). Teachers as researchers: Implications for supervision and teacher education. *Harvard Educational Review.*

Fetterman, D. M. (1988). Qualitative approaches to evaluating education. *Educational Researcher, 17*(8), 17-23.

Goswami, D., & Stillman, P. R. (1986). *Reclaiming the classroom: Teacher research as an agency for change.* Portsmouth, NH: Boynton/Cook.

Gregory, R. (1988). *Action research in the secondary school.* London: Routledge, Chapman and Hall.

Hustler, D., Cassidy, A., & Cuff, E. C. (Eds.) (1986). *Action research in classrooms and schools.* London: Allen and Unwin.

McGill, M. E., & Horton, M. E., Jr. (1973). *Action research designs for training and development.* Washington, DC: National Training and Development Service Press.

McKernan, J. (1988). Teachers as researchers: Paradigm and praxis. *Contemporary Education, 59,* 154-158.

Oldroyd, D., & Tiller, T. (1987). Change from within: An account of school-based collaborative action research in an English secondary school. *Journal of Education for Teaching, 13*(1), 13-27.

Posner, G. J. (1988). *Field experience: Methods of reflective teaching* (2nd ed.). New York: Longman.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action.* New York: Basic Books.

Schön, D. A. (1987). *Educating the reflective practitioner: Toward a design for teaching and learning in the professions.* San Francisco: Jossey-Bass.

Smyth, J. (in press). A critical pedagogy of classroom practice. *Journal of Curriculum Studies.*

Sykes, C. J. (1988). *Profscam: Professors and the demise of higher education.* Washington, DC: Regnery Gateway.

Whyte, W. F., Hamilton, E. L., & Wiley, M. C. (1964). *Action research for management: A case report on research and action in industry.* Homewood, IL: R. D. Irwin.

Footnotes

[1] A similar program, "Classroom Research," has been developed and applied by Patricia Cross and Thomas Angelo at the University of California, Berkeley.

[2] This English translation of the original "Forschendes Lehren" is closest to the idea expressed in the German title.

[3] The symbol of the magnifying glass was used as a logo for all correspondence, informal papers, and publications throughout the project.

[4] The faculty development group was formed out of the original senate's commission at the University.

[5] Patricia Cross and Thomas Angelo have prepared a similar collection to help individual faculty members engage in classroom research, called *Classroom Assessment Techniques: A Handbook for Faculty.* The handbook can be obtained from the National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPTAL), 2400 School of Education Building, University of Michigan, Ann Arbor, MI 48109-1259.

Brightman, H.J., Bhada, Y., Feldhaus, W., Giovinazzo, V., Mansfield, N., Rue, L., Schaffer, M., & Schreiber, A. (1990). The multiple-paths faculty evaluation system. *Journal on Excellence in College Teaching, 1*, 109-117.

The Multiple-Paths Faculty Evaluation System

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Introduction and Overview

Wilson (1942) wrote that "the most critical problem confronted in the social organization of any university is the proper evaluation of faculty services." Historically, faculty evaluation systems have provided administrators critical data to make academic personnel decisions. Several writers have suggested that evaluation systems should also encourage individual flexibility and provide for systematic faculty development. Menges (1984) and Aleomoni (1984) predicted that flexible systems will soon become the norm. A faculty member will be able to decide how to allocate efforts among teaching, research, and service. Increased flexibility runs contrary to recent trends. Miller (1987) noted that some small colleges and regional universities are placing as much emphasis on research as research-oriented institutions. Today there is less, rather than more, flexibility as many schools exhibit a "follow-the-leader" mentality. That is not all. Few evaluation systems provide the requisite support for faculty development (Aubrecht, 1984).

Given the need for increased flexibility and faculty development, the College of Business Administration's Faculty Development Committee (FDC) at Georgia State University reviewed the College's evaluation system. The FDC found that the system did not motivate senior faculty, ignored faculty development, and mandated a single track for promotion to full professor.

This article is based on an address given by Harvey Brightman at the Eighth Annual Lilly Conference on College Teaching, November 4-6, 1988, Miami University, Oxford, Ohio.

Harvey Brightman *is Regents Professor of Decision Sciences at Georgia State University. His main areas of interest are managerial problem solving/decision making and the improvement of university-level teaching. He has published over 60 articles as well as the books,* Problem Solving: A Logical and Creative Approach, Statistics in Plain English, *and* Group Problem Solving: An Improved Managerial Approach.

The FDC developed a faculty performance/development/evaluation system that emphasizes flexibility, encourages development, and strives for collegiality. The system, approved by the faculty in May 1989, is innovative in that it:

- Uses a management-by-objectives approach.
- Allows multiple paths to promotion and excellence.
- Is development oriented.
- Is collegial.

Innovative Features

Flexibility

The College of Business Administration historically has recognized only one path to excellence: equal emphasis on teaching and research/publications and less on service. The one-path model ignores the law of comparative advantage. Simply stated, faculty are not alike. They have different talents and specialties. A performance evaluation system should encourage faculty to do what they do best. It should not force all to be clones of one another. The one-path model also ignores a faculty member's life cycle. In the first five to seven years, faculty at major universities often avoid service, survive teaching, and concentrate on research. Research efforts are often diffused, ad-hoc, and opportunistic. The goal is quantity, perhaps at the expense of quality. During the next five to seven years, faculty do synthesizing research, their teaching matures, and they serve on college or university-wide committees. During the third stage and until the onset of actual or psychological retirement, a faculty member experiments with teaching, serves at the national level within academic organizations, and undertakes major and systematic research projects. A performance evaluation system must reward and motivate faculty members at each stage of their professional careers.

The multiple-paths model provides alternative paths to excellence. Faculty members can select profiles, or career paths, that best meet their long-term professional needs. They may choose from five alternative position descriptions, or profiles: traditional, teaching, research, service, and manager-professor. The profiles place varying emphases on teaching, research/publications, and service. All profiles require accomplishments in the three areas and thus are legitimate paths to promotion to full professor. However, the time required to achieve promotion may vary depending on the profile chosen.

The multiple-paths model balances the faculty members' needs with those of the departments and College. Faculty members do not have total freedom of choice in selecting profiles. They are constrained by the need to maintain a proper balance within and between departments. The FDC defines proper balance as a portfolio of profiles that will help the College and departments accomplish their respective missions.

Development

Performance reviews and faculty counseling should be integral elements of any evaluation system. Performance reviews focus on the past and answer the question, How have I done? Faculty development focuses on the future. It asks the question, What can the department or College do to help me accomplish my goals? Performance reviews and faculty development are distinct activities and should be handled in separate meetings (Allenbaugh, 1983).

In the multiple-paths model, faculty members may request developmental conferences at any time. The chairs also extend annual invitations to faculty members to discuss how they can help faculty to achieve their goals.

Collegiality

The chairs evaluate faculty members against their stated profiles, not other faculty. Faculty members annually develop five-year and one-year goal sets that are consistent with their selected profiles. The chairs rate the one-year goal sets as above, equal to, or below the *college standard* for that profile. College Standard is a goal set that, if accomplished, will result in promotion in the normal period of time. Guidelines for each College Standard profile are presented below. The standards reflect recent promotion recommendation decisions of departmental promotion and tenure committees, department chairs, and the College and university-wide promotion and tenure committees.

The Annual Process

The faculty evaluation system has three stages. In January, each faculty member completes an accomplishment report for the previous year, a five-year statement of goals (updated annually), and a one-year goal set for the current year ending December 31. The one-year goal set contains specific and quantifiable goals and must be consistent with the selected profile.

Goal Setting for the Current Year

The chair must approve the faculty member's one-year profile. While flexibility is encouraged, the chair must maintain a mix of profiles consistent with the approved departmental mission. The chair then assesses whether the goals are above, at, or below the College Standard for the profile. The faculty member must agree or disagree in writing with the chair's assessment.

Faculty members normally make at least a one-year commitment to a profile. In subsequent years, they may either continue that profile or switch to another profile. It is anticipated that faculty members will systematically switch profiles as they move among career stages or exploit unexpected career opportunities.

Evaluation of Past Year's Accomplishments

The chair judges a faculty member's accomplishments of the previous year using a 5-point scale, from significantly above to significantly below the College Standard for the selected profile.

Developmental Conference

The chair, as facilitator, extends an invitation to each faculty member for a developmental conference during the summer. The discussion is informal, two-way, nonevaluative, and collegial. With the chair's concurrence, the faculty member may revise the annual statement of goals or the selected profile. If applicable, the conference should also include feedback on progress toward promotion or tenure.

Since the multiple-paths system encourages development, the College must be prepared to provide it. For the past four years, the FDC has sponsored both teaching and research workshops. Over one third of the faculty have attended one or more programs. The FDC will increase its efforts to support the developmental goals of the multiple-paths evaluation system.

Five Alternative Profiles

Each profile has basic expectations for teaching, research/publications, and service. Consistent with the College's promotion and tenure policies, all faculty should demonstrate teaching competence, produce refereed publications of significant quality, and engage in some service activities.

	Emphasized Goals	**De-emphasized Goals**
Traditional	Equal: teaching and research	Service
Teaching	Teaching	Research and service
Research	Research	Teaching and service
Service	Service	Teaching and research
Manager-Professor	Management	Teaching, research, and service goals for that portion of the faculty member's time that is nonmanagerial. Chairs/ directors of academic units select this profile.

Nontenured faculty should choose either the traditional or research profile. These profiles maximize the probability of meeting the research and publication requirements for tenure. Tenured faculty may choose any profile. Faculty who achieve above the College Standard in *any* profile are rewarded accordingly. The basic premise of the multiple-paths model is that "productivity is productivity is productivity."

Types of Goals

The five profiles place varying emphases on teaching, research, and service activities. The profiles also differ in the types of goals—operational, creative, and professional development—formulated for the three areas. The distinction between operational and creative goals was drawn from philosopher of science Kuhn's concepts of normal and revolutionary science (1977).

Operational

Activities that are essential to meeting the College's basic obligations to taxpayers accomplish operational goals. Examples are teaching an established course, publishing in a nonrefereed publication, or serving on a College committee that requires moderate time demands.

Creative

Activities that produce innovations or significant improvements and that involve significant commitment and risk taking accomplish creative goals. Examples include teaching doctoral seminars or executive MBA classes, developing new courses, improving pedagogy, or attempting classroom innovations; conducting major research and publishing results that should have significant impact; serving in leadership positions in professional organizations or making extraordinary contributions in College or university-wide committees that result in organizational change.

Professional Development

Activities that allocate time toward future growth accomplish professional development goals, for example, attending workshops to improve teaching or research, undertaking faculty internships or visiting professorships, or conducting a systematic literature review. Such activities are current allocation of resources for future benefits, that is, human resource investment.

The profile designation dictates the number and type of goals. A teaching profile has more creative and professional development goals in the teaching area than does the traditional profile. It has fewer and more operational goals in the research and service areas. Similarly, a research profile has more creative and professional development goals in the research area than does the traditional profile. It has fewer and more operational goals in the teaching and service areas.

Typical Descriptors of College Standard Performance for the Five Profiles

Table 1

The Traditional Profile

	Operational Goals	Creative Goals	Professional Development Goals
Teaching	Course variety Average teaching performance	Major changes	Teaching, research, or service
Research	Long-term: several articles in non-refereed publications	Short term: one article	
Service	Community Committee	Membership on important committee	

Table 2

The Teaching Profile

	Operational Goals	Creative Goals	Professional Development Goals
Teaching	Course variety	Major teaching or content changes, e.g., experimental or new course Above average teaching performance	Teaching workshop or similar activity
Research	Long-term: one article, some form of publication		
Service	Community Committee		

Table 3

The Research Profile

	Operational Goals	Creative Goals	Professional Development Goals
Teaching	No course variety Average teaching performance Minor changes		
Research	Nonrefereed publications	Short- and long-term: several articles State-of-the-art methods Chair of dissertation committee	Grantsmanship work shop or similar activity
Service	Community Committee		

Table 4

The Service Profile

	Operational Goals	Creative Goals	Professional Development Goals
Teaching	No course variety Average teaching performance Minor changes		
Research	Long-term: one article, some form of publication		
Service	Community Committee	Chair of important committee Leadership in an external organization	Internship to improve committee leadership skills or similar activity

Manager-Professor Profile

Faculty who hold management positions within the College choose this profile. The portion of time allocated to management goals will depend on the position. Management goals emphasize department leadership and include:

1. Executing the administrative requirements of the position in a satisfactory and timely fashion.
2. Developing faculty and staff.
3. Encouraging departmental innovation.
4. Creating a dynamic and enthusiastic environment.
5. Practicing participatory management, collegiality, and shared governance.
6. Seeking departmental opportunities and bringing them to fruition; being entrepreneurial.

This profile sets fewer operational goals for teaching, research, or service for that portion of the faculty member's time that is nonmanagerial. Professional development goals emphasize improving leadership and management skills.

For each profile, a goal set above College Standard exhibits a greater quantity or level of creative goals than the College Standard goal set. Similarly, a goal set below College Standard exhibits a lesser quantity or level of creative goals than the College Standard goal set.

Conclusion

An evaluation system should motivate faculty to use all their talents. Many systems do not. They mandate the same goal set for all faculty irrespective of individual or career cycle differences. They force invidious interpersonal comparisons among faculty. They don't differentiate between good teaching and important classroom innovations. They are not based on management by objectives principles. They focus exclusively on evaluation and omit development.

The multiple-paths evaluation system uses a management by objectives approach, allows multiple paths to promotion and excellence, and is collegial and development oriented. We believe that it will improve faculty job satisfaction and productivity. After the College has completed the goal setting and evaluation cycle in January 1991, we hope to have information available on the system's successes and problems.

References

Aleomoni, L. M. (1984). The dynamics of faculty evaluation. In P. Seldin, *Changing practices in faculty evaluation: A critical assessment and recommendations for improvement*. San Francisco: Jossey-Bass.

Allenbaugh, G. E. (1983, May). Coaching: A management tool for a more effective work performance. *Management Review*, pp. 21-26.

Aubrecht, J. D. (1984). Better faculty evaluation systems. In P. Seldin, *Changing practices in faculty evaluation: A critical assessment and recommendations for improvement*. San Francisco: Jossey-Bass.

Kuhn, T. S. (1977). *The essential tension: Selected studies in scientific tradition and change*. Chicago: University of Chicago Press.

Menges, R. J. (1984). Evaluation in the service of faculty. In P. Seldin, *Changing practices in faculty evaluation: A critical assessment and recommendations for improvement*. San Francisco: Jossey-Bass.

Miller, R. I. (1987). *Evaluating faculty for promotion and tenure*. San Francisco: Jossey-Bass.

Wilson, L. (1942). *The academic man*. London: Oxford University Press.

Beidler, P.G. (1990). From the other side: An American teacher in China.
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From the Other Side: An American Teacher in China

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During the 1987-88 academic year I was a Fulbright professor of American literature at Sichuan University in Chengdu, People's Republic of China. I went to China not because I wanted to do something for world peace, or because I wanted to introduce to the Chinese the wonders of Western culture, or even because I wanted to share with them the joys of American literature. The fact is that I went to China because I was bored with teaching in America. When I get bored, I get boring. I would rather be almost anything than be boring. I would even rather go to China than be boring.

I want to tell you something about what it is like to be an American teacher in China. Many of you will have the opportunity to teach in China or in another nation. If so, I urge you to take the opportunity seriously. Teaching in another country is a wonderful way to travel. It is not only cheaper than being a tourist, but it gives you a chance to live in a local culture for awhile and, most important, to get to know some of the local people. You must, however, be ready to make adjustments. I want to tell you about the kinds of adjustments I had to make as I learned about teaching an old subject like American literature in what was for me a whole new setting. Some of the adjustments were painful, but they were all part of the fun. And I am happy to report that I was not bored, not bored at all.

Calendar

Any American teacher in China has to adjust to a whole new set of facts. To give you some notion of the adjustment I had to make, let me tell you a little about the calendar in China. Can you imagine living for a year without any notice given to the days we hold most sacred? There is no Thanksgiving or Christmas or Easter in China, and no Fourth of July. Instead there is Moon Day in the fall, and Liberation Day on October 1. Liberation Day marks the

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beginning of one of the most thunderous events in recent Chinese history, that day in 1949 when Mao Zedong's armies drove Chiang Kai-shek into Taiwan. October 1 is the most celebrated day in China, with the exception of the Chinese New Year, which comes not on January 1, but sometime in mid-February, depending on the cycle of the moon.

Population

Dominating everything about China is the simple fact of population. Nearly a quarter of the world's population is Chinese. On the other hand, China has only 2% of the world's transportation facilities, which means that the streets and buses and trains are impossibly crowded. China, a country of about the same geographical size as the United States, has more people than North America, South America, and Europe combined. It may well be that Mao Zedong's biggest mistake was not that he imposed socialism on a country not naturally suited to it, nor the infamous Cultural Revolution in 1966 during which he closed the universities and sent all the intellectuals to the countryside to be reeducated by the peasants. No, Mao's biggest mistake was that he did not foresee the social and economic problems that would result when he encouraged the Chinese people to have lots of kids. The current generation of Chinese is paying for that mistake by legislating, and attempting to enforce, a strict one-child-per-family policy. Try to imagine what it will be like to be a child in the new China: You will have no brothers, no sisters, no aunts, no uncles, no cousins. What will you have are six adults—two parents and four grandparents—who hover over you, protecting the little prince or princess who is their only progeny, their only link to a future generation.

Population and Education

The effect of all these people on the educational system is enormous. Consider some facts. First, there are more people in school in China than there are people in America. Can you imagine what it would do to our budgets and our bureaucracy if every American of every age were in public schools at one level or another? Second, college students in China are very smart, because they are the top 2% of a population of a billion. Here in America college students are less smart, at least on the average, because they are the top 40% of a mere 200 million. Third, because there are so many students in China, and because almost all of them are forced to learn some English, it is now, or soon will be, true that there are more English-speaking people in China than there are in the rest of the world combined. (But just try to find one of them when you are lost in a city and cannot read the Chinese characters on the street signs!)

Undergraduate Students

My wife taught undergraduate English majors. Because there are so many college students in China, and, relatively speaking, so few colleges, the living conditions for Chinese students are crushingly crowded. In student dorms eight undergraduates are packed into a room approximately 18 by 12 feet. There is a window at one end of the room, two double bunks on either side of the room, and a table between the two rows of bunks. The table is the study and dining table for the eight students, who will be roommates for all four of their undergraduate years. In some dorms, the eight human occupants share their rooms with rats. Above the table is a single electric light with a 60-watt bulb. The electricity on the campus is turned off at 11:00 every night. Students who want to study later than that use candles. At Sichuan University the rooms are not heated, nor are any of the classrooms. In the winter students wear their coats and long underwear everywhere they go. In each dorm there are toilets and washrooms with cold water. There is one shower room on campus for men, one for women. Hot water is available three hours a day, most days. Needless to say, the 9,000 students who have access to the showers do not use them every day.

The students have no choice of roommates, little choice of a major, no elective courses to choose from once they are in a major, and virtually no choice of jobs. Near the end of their senior year, they are given a slip of paper telling them what job they will be doing for the rest of their life. For most of the English majors the slip of paper tells them in which high school, in which city or town, they will be teaching English. A few of the students, the very best ones, get to go on to graduate school. These lucky few will almost certainly wind up teaching English at the college level.

Graduate Students

I taught graduate students in the English department. They were all master's candidates. They lived three to a room in one of the more modern dorms. Their rooms had no heat. The English graduate students were part of a class of 25 students, with whom they took all their classes for two years. The third year they spent writing a master's thesis. They had no elective courses and were assigned at random to a thesis director. They were required to select a thesis topic that the thesis director knew something about, or was interested in. They had to write the thesis in English. Their library had almost no scholarly books in English, and the few in English were accessible to them only rarely and could not be taken from the library. Because they were usually the best students in their undergraduate classes, their English, especially their reading and written English, was quite good. Most had had at least one British or American teacher as an undergraduate.

Because we spoke no Chinese, my wife and I did all of our teaching in English. At first, most of my students had trouble understanding me because

I spoke too fast and had what was for them a funny accent. I taught courses in American literature and in how to write a master's thesis. Virtually all of my students, when they graduated, would be college teachers. Virtually none of them, however, wanted to be college teachers. In China, teaching is a low-status, low-pay, low-perk profession. Most of my students dreamed of going into foreign trade or of becoming tour guides or translators. Most knew, however, that they could not escape teaching.

Chinese Teachers

So far as I could tell, college teachers in China are not overworked. Most of them appear to teach only two courses, and those courses are the same ones they have taught year after year to students who are required to take them. If they want to teach a new or experimental course, they may do so, but only as an overload and without extra pay. They are generally spared, even at the graduate level, the need to attract elective students by doing creative teaching. This is so because students in China are offered no electives and are not permitted to drop courses they do not enjoy. Besides, there is almost no incentive to do superior teaching. Virtually all teachers in China are paid the same wage—around $40 a month—and live on campus in housing assigned by the administration. The experienced teachers usually have a one- or two-bedroom apartment. They have no academic office except their living room, which often converts to a bedroom at night.

Most college teachers in China teach at their own alma mater and, for the first several years of their teaching, share a single bedroom on campus with one or two other young teachers, or, if they are married, with their spouse and child. That bedroom is also their kitchen, dining room, and academic office. They are permitted to accept a job offer at another university only if their own university gives them permission to leave. In fact, very few manage to leave. The worst teachers receive no job offers from other universities. The best teachers receive such offers, but because they are good teachers, are not granted permission to leave their own universities.

So far as I could tell, virtually all college teachers in China spend all of their class time lecturing to their students. It is the way they were taught and the only way they know to teach. They have never had a class in which the discussion method was used.

China Challenges

I would like to tell you about some of the special challenges I faced as an American teacher in China, and about some of the strategies I developed for meeting those challenges.

Language. Challenge: How was I to teach American literature and writing to students whose native language was not English? Strategy: I spoke more slowly and distinctly, and I made shorter reading assignments than I would have in a similar course in America, realizing that it took my students twice as long to read a given assignment as it would have taken my students here.

Names. Challenge: How was I to learn the names of students whose names I could not pronounce, in a language in which each "word" can be at least four different words, depending on its tone? Strategy: I persisted, and eventually learned to pronounce, with some semblance of accuracy, names like Qin Chang-yi, Huang Yu-li, Wang Shu qin, Cao Xu-dong, and Li Zhenzhong. I learned to remember which name went with which face. I never pronounced most of the names well, but I think my students appreciated my efforts.

Culture. Challenge: How was I to teach American literature to students who had virtually no background in Western literature? How was I to deal with their sketchy understanding of a culture that they or their parents had considered for many years to be that of the enemy American "running dogs of capitalism"? Strategy: I learned to think more objectively about my own culture, to imagine the way concepts like Puritanism, self-reliance, Mississippi rafts, slavery, freedom, greed, and democracy might appear to nonAmericans. I tried to raise questions about why there were so many dead bodies in Poe stories, why Hawthorne's characters seemed to feel so guilty, why Thoreau enjoyed loneliness, why Huck Finn feared rather than honored his father, and why Sarty's father smeared manure on the colonel's fancy imported carpet.

Discussion. Challenge: How was I, who distrust lecturing as a method of teaching writing or literature, to use the discussion method with students who have never experienced it, who think of the teacher as a dispenser of information rather than as an asker of questions, and who believe the discussion method is a waste of time? Strategy: I insisted, unrelentingly, on having my students talk to me, and to each other, in class. I explained to them why I insisted on that. I gave daily quizzes to make sure that my students had done the kind of reading that would permit them to take part in a discussion of a literary work. I never made fun of a student's response, and tried to say something encouraging about even the "wrong" answers. I let my students know that I considered a good question to be far more important than a right answer. In short, I treated my students in China pretty much the way I treat my American students, who are often only slightly more shy than their Chinese counterparts about asking questions or offering responses orally. I did one thing there that I do not normally do in America: I had tutorials in my living room, in groups of eight, and would not let them go until every student had said at least one thing, in English, to the group. By the time I left, the tutorials were going fine, and I found myself saying almost nothing. That is just the way I like it. My most successful classes are those in which I shut up the most.

Authority. Challenge: How was I to teach students governed by a socialist system in which creative thought, individual risk-taking, and the questioning of authority was more often punished than rewarded? How was I to teach my students to think for themselves when they expected me to think for them and to tell them the right answers? Strategy: I guided my students to stop trying to figure out what my right answer was and to start trying to figure out what their own right answer was. I encouraged them by rewarding original statements with comments like, "Hey, I like that," or "I wish I had thought of that." I said over and over, "I don't know," and meant it, and I showed some of the ways in which published critics are wrong at least as often as they are right. I thanked anyone who challenged me or my views. I praised anyone who expressed an original idea, or who found fault with a published critic.

Examinations. Challenge: How was I, who do not believe in final examinations, going to teach students who were accustomed to having their grade in a course based almost entirely on their performance on a final examination? Strategy: I gave no final examinations. Instead, I gave daily quizzes on the reading assigned for that day, I assigned papers, and I counted class participation.

Failure. Challenge: How was I to teach students who had come to know that, once they had passed an entrance examination, they could not fail a course, and so need not put out much effort? Strategy: I failed one.

Monitor. Challenge: How was I to react to the class monitor, a student who was appointed by the Party hierarchy to be my "assistant," to help me in class as I saw fit, to get messages to the students, and to bring me messages from the students? Strategy: I welcomed the monitor as an efficient way to help me learn the ropes, as an effective way for me to learn how to pronounce the names of my Chinese students, and as a simple way to get word to students in a university in which none of us had telephones. I was distressed, of course, when one of my monitors came to me, after my first month of teaching, to tell me that quite a number of his classmates did not think I was doing a very good job of teaching, but that they understood and did not hold it against me. After all, I was a foreigner, and did not know very much about the Chinese way of doing things. They had no doubt, however, that I would learn to be a better teacher. There was, for example, the little matter of those daily quizzes that caused some students, the ones who did badly, to lose face. And they wanted to know, through the monitor, when was I going to begin to lecture more so that they could learn something from me? My three monitors turned out to be among my three best friends in China, if only because I had so many dealings with them.

Communism. Challenge: How was I to teach "Communists"—students who distrusted me as a capitalist and who hated all that America stood for? Strategy: I ignored the problem, pretending it did not exist, and taught mostly as I did in America. I rarely talk about politics in my literature classes in America, and I rarely did in China. My strategy seems to have worked, partly because I was being true to myself, partly because most younger Chinese intellectuals are more capitalist than the capitalists. They want products and music and ideas and methods from America. Their goal is to earn money in a free-market environment that rewards personal effort and offers incentives to individuals. They look increasingly, and idealistically, to America to show them the way. I felt right at home in China, wishing that my students were more idealistic, less eager to get rich.

Motivation. Challenge: How was I to motivate students who were in training to be teachers, but who did not want to be teachers? Strategy: I showed them that I was having fun in my profession, that I enjoyed the freedom, that I valued the chance to work with young people, and that I liked being able to influence the future by touching lives today. I also said that even for nonteachers it was important to know how to write well, and that literary works were not only fun to read, but also gave us information about how to get along in the world.

America. Challenge: How was I to respond to the most consistent and practical motivating feature of them all for my Chinese students, the possibility that they might come to America to study? Strategy: I told them, over and over, the truth: that it was almost impossible for them to come to America. I told them that their work units probably would not agree to release them. I told them that, even if they did get permission from the work unit, the Chinese government, aware that a large percentage of Chinese students who studied in America found ways to stay in America, would refuse to grant them a passport, especially if they were single. I told them that, even if they were one of the few who got a Chinese passport, the American Consulate would turn down most visa requests, even from those few students who could get an American university to accept them, and even from those far fewer ones who managed to get an American university to offer them financial support. I suggested, usually to deaf ears, that they should stay and teach in China. This was their native land, I said, and teaching was a noble and productive profession. They nodded politely, then asked me if I would write letters of recommendation to American graduate schools. I said yes. They asked me if I would be their financial sponsor. I said no.

Caring. Challenge: How was I to teach students who were not used to having many teachers learn their names, or look them in the eye, or show an interest in their development? Strategy: I cared.

What I Taught in China

I had a wonderful year in China. I learned a lot. Without question, I learned far more than I taught. I am not sure I taught the Chinese anything. Oh, I suppose that I taught a few of my students a little about writing and a little about American literature. If I taught anything of any lasting importance, however, it was a new approach to teaching. If I have any enduring influence, it will spring from the fact that there are now 50 graduate students in China who have had firsthand experience with an alternative to the lecture method of teaching. Some of those 50 who become teachers may try to use the discussion method of teaching, may try to encourage in their students a bit of the self-trust I tried to encourage in *them*, may show to their students some of the caring that I tried to show *them*. The most important thing I taught in China was not what I taught, but how I taught.

Should You Teach in China?

China is crying out for Americans who will come to teach there. Should you consider going? Of course you should. But go with your eyes open, and with your expectations reduced. Be aware that fewer than half of those who go really enjoy the experience, and many hate it. If you do go, here are a few bits of advice that may help to make the experience a good one for you:

Be selfish. Go to China because you want to get out of your present rut, because you want an adventure, because you want to learn about a culture other than your own. Go to China for the same reason that Marco Polo went—because there is something in it for you.

Kill your missionary. Do not go because you hope to find in China an audience of a billion that you can influence to become Christian, or capitalist, or democratic, or "good" in some other way. The Chinese are quite good enough without you, thanks, and if you try to change them, you will, and should, fail. Teach whatever you teach the very best you can, and get to know as many of your students personally as you can. That will be quite good enough.

Remember five/five. Your living conditions will be five times worse than what you have known in America, but five times better than those your Chinese counterparts enjoy. Learn to deal with both of those fives with dignity.

Ask why, not why not. Lots of things will seem very strange at first. Your impulse will be to ask yourself, Why in the world don't they do it our way? That question will not teach you much. Rather, ask, Why do they do it their way? You might learn something. Why do people spit so much in China? (To get rid of the pollution particulates that catch in their throats? To avoid digesting snotty bacteria? Because there is not enough wood pulp in China to waste on tissue?) Why do they have mostly squat toilets in China? (To avoid transmitting germs? Because squat toilets are biologically more suitable to the discharge of waste? Because squat toilets are cheaper to construct, to maintain, and to clean?) Why do they have a two-currency system, one for Chinese and one for foreigners? (Because the Chinese economy requires that they bring more foreign currency into the country? Because they want to limit the amount of money the Chinese spend on certain foreign-made goods, which are available only to people with foreign exchange certificates? Because the

Chinese are in a period of painful economic transition, with most wages fixed at old levels, but with market-driven prices spiraling ever upward?]

Be flexible. Rigid, brittle foreigners crack in China. They hate the odors, the crowds, the need to bargain, the waiting, the lack of response from administrators, the fact that most people take siestas, the shortage of electricity, the funny food. If you are rigid, you will not be happy in China.

Think adventure, not hardship. If you want life to be just the way it is at home, you should stay home, even if you are bored and stagnant there. But if you love learning, go to China. You learn only when you are off balance, and China will keep you off balance. Once you get there, remind yourself that you came to China because you wanted an adventure, and there would be no adventure if there were no hardships. Think of yourself as a character in a novel. There would be no thrill to reading about wagon trails west, or the frontier, or life on the open seas, if there were no hardships out there to overcome. Be grateful that China will give you a few hardships to overcome. China will cast you as the true-grit hero or heroine of your own exciting little adventure.

Fall in love. If you have the right attitude, you will fall in love in China—with the oldness of it, with the strangeness of it, and with its people.

Postscript

I had the opportunity to return to China in May 1989. During that month, it was exciting watching the students from the 20 universities in Chengdu demonstrating around the Mao statue at the center of town. The excitement that had begun in Beijing had reached Chengdu just before I did. The students went on strike from their classes and engaged in peaceful, orderly demonstrations. Some of the students were serious about their vague demands of democracy and freedom. Others were glad for a chance not to go to class. Others were puzzled about what they were supposed to be demanding. Others knew that no good could come of this kind of demonstration. Curiously, however, no one seriously feared that there might be violence or killing.

Three days after I returned home, the violence and killing began in Chengdu. Next to Beijing, Chengdu suffered more than any other city in the crackdown. The largest department store was burned. The windows in a tourist hotel were broken. At least eight people died. None of my students or friends was harmed, but all those from whom I have received letters were devastated by events they did not want to talk about. In their letters they used indirect or poetic language to describe these events: "A storm has come. We are safe, but the skies are very gray."

I think often of my students in China. I wonder how they will fare as English teachers in a country that blames "outside interference" for stirring up the students. I wonder what will happen to students whom I taught about the beauty of questions. How will they get along in an environment suddenly less hospitable to questions? I wonder about those 50 graduate students who learned from me something about the discussion method. How will they get along in a culture where suddenly it may be best not to discuss?

Sometimes being a teacher is discouraging business.

But China has a long history, and the Tiananmen Square happening was just a single blip on the electrocardiogram of a great people. The Chinese people will find a way, once again, to triumph.

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Dreams and Questions: Some Reflections on Teaching

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> *Then the Lord spoke to you out of the midst of the fire; you heard the sound of words, but saw no form; there was only a voice.*
>
> *Deuteronomy 4:12*

In the lore of the history of philosophy, there are allusions to a public lecture given by Plato. Tradition holds that its subject was "The Good." According to Aristotle, who either heard the lecture or at least heard of it, Plato's talk disappointed most of the audience. Apparently they had hoped for something more practical than Plato's metaphysics provided.

Plato, of course, might have anticipated and even explained his listeners' disappointment. For in his "Seventh Letter," he speaks of knowledge which "is not something that can be put into words like other sciences; but after long-continued [dialogue] between teacher and pupil, in joint pursuit of the subject, suddenly, like light flashing forth when a fire is kindled, it is born in the soul and straightway nourishes itself" (Plato, 1962, p. 237).

Whether you will be disappointed or nourished by what follows, time will tell. But I hope the latter experience, not the former, will prevail. I stress that because I want these remarks about particular insights that govern the particularity of my teaching to be an occasion for you to think about the ones that govern *yours*.

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John Roth *is the Pitzer Professor of Philosophy at Claremont McKenna College. He was named 1988 Professor of the Year by the Council for Advancement and Support of Education (CASE) and the Carnegie Endowment for the Advancement of Teaching. He has published 16 books and over 150 articles and reviews. His areas of expertise include Holocaust studies and American studies, as well as philosophy and religion.*

Philosophy, suggested Aristotle, begins in *wonder.* That word encompasses awe and puzzlement, skepticism and surprise, imagination and yearning, even despair and protest. Provoked by wonder in all of those senses and more, my career as a teacher and scholar moves along a path that forks in two directions. One fork explores American culture and specifically what the concept of "the American dream" reveals and hides. The other leads into the darkness formed by genocide and particularly the Holocaust. Thus, much of my life as a professor of philosophy has been governed by dreams and questions. Many of the dreams are visions of American life that continue to be influential in making the United States, and indeed the world, what it is today and will be tomorrow. Many of the questions are posed by Auschwitz—how and why has it scarred the earth?

Sometimes emerging out of these studies—which are apparently disparate and yet, in my judgment, quite closely related—and sometimes emerging from elsewhere to inform them, are voices I have heard. If you experience something similar in your efforts, you will understand that the voices I have in mind are among those that work behind the scenes of my own work. Some I speak about directly; others live in the silences of my life. In either case, they are present, and they govern, I have come to understand, much that I have to say. In this article, I would like to let some of these voices speak more openly. They have never been—at least for me—sources of disappointment but ones of nourishment instead. If they can work that way for you, too, well and good. Remember, though, that the chief reason for letting my voices speak is so you may hear again the ones that never disappoint but nourish *you.*

Below there will be more about *how* these voices work. Before going further on that point, however, here are two examples of *what* they say.

When looking up from my office desk, my eye often catches a poster on the wall. The words it contains are by Dick Seeger, an author unknown to me, but they are good ones for a philosopher, and I have grown to love them. So I hope that students note them and take them to heart, too, for there is something *moving* about a message that urges one, as this poster does, to THINK OF ALL THE THOUGHTS IN YOU JUST WAITING TO BE THOUGHT.

A second example worth sharing comes from an author I know in a way quite well, namely, the great American philosopher-psychologist, William James. In 1890, a century ago, he published his two-volume *Principles of Psychology,* a pioneering study on which he had labored for more than a decade. Among the best chapters of that book, which still repays anyone who will read it, there is one on "Habit." It ends with some "ethical implications," as James called them, which I first read when I was only a year or two older than most of the undergraduates I teach today. Those ethical implications stuck with me. For if the language in which James expressed them comes from another century, his thoughts are as relevant now as they were then.

"The hell to be endured hereafter, of which theology tells," wrote James in the final paragraph of his chapter on habit, "is no worse than the hell we make for ourselves in this world by habitually fashioning our characters in the wrong way." James continued as follows:

> Could the young but realize how soon they will become mere walking bundles of habits, they would give more heed to their conduct while in the plastic state. We are spinning our own fates, good or evil, and never to be undone . . . . Nothing we ever do is, in strict scientific literalness, wiped out. Of course, this has its good side as well as its bad one . . . . Let no youth have any anxiety about the upshot of his education, whatever the line of it may be. If he keep faithfully busy each hour of the working-day, he may safely leave the final result to itself. He can with perfect certainty count on waking up some fine morning, to find himself one of the competent ones of his generation, in whatever pursuit he may have singled out. Silently, between all the details of his business, the *power of judging* in all that class of matter will have built itself up within him as a possession that will never pass away. Young people should know this truth in advance. The ignorance of it has probably engendered more discouragement and faint-heartedness in youths embarking on arduous careers than all other causes put together. (James, 1950, Vol. 1, p. 127)

By now it may be obvious that the voices I have in mind are not primarily ones I have heard firsthand. They are mediated through the silence of writing and reading, and yet I want to stress that they do speak and that they communicate best, however paradoxically, when they are *heard*. That realization—I find it sharing something with Plato's image of "light flashing forth when a fire is kindled"—came home to me one day as I read Eudora Welty's autobiography, *One Writer's Beginnings*. At one point this Pulitzer prize-winning storyteller, who has sketched so many rich portraits of life in her native Mississippi, reflects this way:

> Ever since I was first read to, then started reading to myself, there has never been a line read that I didn't *hear*. As my eyes followed the sentence, a voice was saying it silently to me. It isn't my mother's voice, or the voice of any person I can identify, certainly not my own. It is human, but inward, and it is inwardly that I listen to it. It is to me the voice of the story or the poem itself. The cadence, whatever it is that asks you to believe, the feeling that resides in the printed word, reaches me through the reader-voice. I have supposed, but never found out, that this is the case with all readers—to read as listeners—and with all writers, to write as listeners. It may be part of the desire to write. The sound of what falls on the page begins the process of testing it for truth . . . . Whether I am right to trust so far I don't know. By now I don't know whether I could do either one, reading or writing, without the other.

> My own words, when I am at work on a story, I hear too as they go, in the same voice that I hear when I read in books. When I write and the sound of it comes back to my ears, then I act to make my changes. I have always trusted this voice. (Welty, 1985, pp. 12-13)

The reader-voice of which Welty speaks has more than one thing to say. Here are some more of the themes and moods, approaches and insights, that affect me when I listen to it. As you will see, in one way or another, they usually have something to do with questions.

To track that line of thought, consider that a book called *Labyrinths* contains brilliant examples of the philosophical *ficciones* composed by the Argentine master, Jorge Luis Borges. One of them, "The Library of Babel," suggests that the universe is a library. Although no two of its volumes are the same, the library contains every possible book. According to Borges, this means that "for every sensible line of straightforward statement, there are leagues of senseless cacophonies, verbal jumbles and incoherences . . ., but not a single example of absolute nonsense" (1964, pp. 53, 57).

People dwell within this library's "indefinite and perhaps infinite number of hexagonal galleries" (Borges, 1964, p. 51). Among these librarians, as they are called, are some who say: If the library contains all possible books, then "on some shelf in some hexagon . . . there must exist a book which is the formula and perfect compendium *of all the rest*" (1964, p. 56). Presumably, this book would clarify and justify everything. Tradition says that such a book not only exists but has even been read at least once. Although by this time nobody can identify either the reader or the book, there have been, Borges tells us, "official searchers, *inquisitors*" who have hoped to find "a clarification of humanity's basic mysteries." Apparently failure's accumulation, however, has worn them down. Presently, we are told, "no one expects to discover anything" (1964, p. 55).

If such futility exists, it may have something to do with what George Orwell thought would happen in *1984*. He compressed it into one grim image. Winston Smith, that novel's protagonist, lacks belief in God but does profess faith in "the spirit of Man." Soon, however, Winston will be broken. O'Brien, his interrogator, aims to insure that Winston will learn to love Big Brother. Winston once thought O'Brien was his friend, but that hope shattered when the "friend" turned out to be one of the most cunning members of the Thought Police. A specialist in the subtleties of betrayal and human domination, O'Brien has even less use for God than Winston does. As for Winston's faith that "the spirit of Man" will prevail, O'Brien gives a blunt rebuttal: "If you want a picture of the future," he taunts, "imagine a boot stamping on a human face—forever" (Orwell, 1983, p. 220).

The journalist-scholar Gitta Sereny learned about boots stamping on human faces some time before 1984. Early in April 1971, she met for the first time a man named Franz Stangl. Formerly the commandant of Nazi death camps at Sobibor and Treblinka, Stangl was beginning a life sentence in a West German prison after being convicted of war crimes. Sereny got permission to interview him, hoping the result would be, as she put it, "some new truth which would contribute to the understanding of things that had never yet been understood" (Sereny, 1983, p. 23). Specifically, she wondered, could Stangl have left the path that took him to Treblinka? And if he could have left that path, would his doing so have made any difference?

Sereny recorded her findings in a book called *Into That Darkness: An Examination of Conscience*. It remains among the most instructive studies of the Holocaust, the Nazi attempt to annihilate the Jews of Europe and millions of other people as well. Summing up her findings, Sereny drew the following conclusions: Individuals remain responsible for their action and its consequences, but persons are and must be responsible for each other, too. What we do as individuals, Sereny contended, "is deeply vulnerable and profoundly dependent on a climate of life" that reflects "the fatal interdependence of all human actions" (Sereny, 1983, pp. 367, 15).

That phrase—"the fatal interdependence of all human actions"—bears remembering. I often hear its voice. When that happens, something else resounds as well. It comes from a contemporary of Stangl's, but on a summer Sunday in 1943, when Stangl was probably ordering more victims to their death at Treblinka, Reinhold Niebuhr was conducting a service of worship in a tiny village church at Heath, Massachusetts. During that service, Niebuhr—arguably, he remains the best American theologian of the 20th century—offered a now-famous prayer that he had written hastily that day on the back of an envelope. "God give us grace," Niebuhr petitioned, "to accept with serenity the things that cannot be changed, courage to change the things that should be changed, and the wisdom to distinguish the one from the other" (Brown, 1986, p. xxiv).

How one finds such grace, courage, and wisdom may take us back to Plato's suggestion that some things cannot be put into words like other sciences. But I have heard part, if only a part, of a sound response in the voice of a slim book that was given to me some years ago by a student. Jenniphr Goodman was from Pitzer College, and she inscribed her gift with words that said: This book has made "a small but significant difference in my life. I'd like to share it with you." The book was Rilke's *Letters to a Young Poet*.

Born in the Czech city of Prague, Rilke was a poet as restless as he was brilliant. He traveled extensively, but Paris was his base during an especially productive period from 1901 to 1910. It was also during these years that Rilke received his first letter from a young man named Franz Kappus. Studying in an Austrian military academy in the late autumn of 1902—Rilke's upbringing, incidentally, had included a similar interlude—Kappus was not yet 20. He wondered what profession he should pursue. He loved poetry—Rilke's in particular. He wanted to write, but found himself "close on the threshold of a profession which I felt to be entirely contrary to my inclinations" (Rilke, 1954, p. 12). Feeling in need of help to decide what his future should be, Kappus one day decided to send some of his poetry to Rilke. He would see if the master found anything in it. Accompanying the poetry, Kappus sent a covering letter "in which," he later observed, "I unreservedly laid bare my heart as never before and never since to any second human being" (Rilke, 1954, p. 12).

Many weeks later, Kappus received Rilke's reply. The exchange of occasional letters that continued from 1903 to 1908 became *Letters to a Young Poet*. While we do not know exactly what Kappus's first letter asked, Rilke's response indicates that the young poet wanted an evaluation of his poetry so that he could know whether he should try to become a writer. Rilke, however, counseled Kappus not to imagine that such an evaluation is easily made. "Things are not all so comprehensible and expressible as one would mostly have us believe," wrote Rilke. Then he added, "most events are inexpressible, taking place in a realm which no word has ever entered" (p. 17).

Rilke's point was that the opinion of others is not ultimate. "You are looking outward, and that above all you should not do now," Rilke insisted. "Nobody can counsel and help you, nobody. There is only one single way. Go into yourself" (1954, p. 18). In saying this, of course, Rilke was not denying the fatal interdependence of all human actions. In fact he was counseling Kappus, relating with him and trying to help him. But Rilke's insight was that he could do so best by pressing Kappus, as he put it, to "acknowledge to yourself whether you would have to die if it were denied you to write." Consider what is truly most important to you as you face a decision, Rilke urged, and then "build your life according to this necessity" (pp. 18-19).

If he followed this advice, Rilke contended, Kappus might find himself called to be an artist. On the other hand, he might not. The finding would be in the searching, and the guide for the search would be the question, What is truly most important to me? Responding to that question, Rilke cautioned, neither is nor should be easy. Responding well requires "growing quietly and seriously throughout your whole development" (p. 21). Answering quickly, once and for all, is not a good substitute. "Seek the depth of things," Rilke urged, and note that care is necessary in the process. "*Everything,*" he insisted, "is gestation and then bringing forth" (pp. 24, 29).

This is also easier said than done, as Rilke himself could attest. Toward the end of one of his longer letters to Kappus, this one sent from Sweden in August 1904, he counsels the young man not to think he has found it simple to live the advice he is giving. On the contrary, says Rilke, his own life has tasted difficulty and sadness. Had it been otherwise, he tells Kappus, he would not have been able to write the words that may help his friend.

From such remarks one can surmise that Rilke was not always a patient man, for his advice to Kappus comes back again and again to the need for patience. "I learn it daily, learn it with pain to which I am grateful," says Rilke, "*patience* is everything" (p. 30). Granted, not all decisions can be made patiently. Some have to be made quickly; others are demanded before we are ready. Rilke was aware of such constraints, and that recognition is one reason why he urges patience nonetheless. For life is a series of decisions, and the significance of any one of them is not restricted to a single moment. Life takes time. If some decisions must be made instantly, others need not, and the latter provide occasions that may enable us to bring things together and make them whole. In that vein, Rilke advances the proposition that forms the most memorable portion of his *Letters to a Young Poet*:

> . . . Be patient toward all that is unsolved in your heart and . . . try to love the *questions themselves* like locked rooms and like books that are written in a very foreign tongue. Do not now seek the answers, which cannot be given you because you would not be able to live them. And the point is, to live everything. *Live* the questions now. Perhaps you will then gradually, without noticing it, live along some distant day into the answer. (p. 35)

Romantic though he may have been, Rilke does not play down the difficulty of this advice, either. We all want answers, not more questions. But that impatience is precisely what Rilke urged Kappus to guard against lest he decide prematurely and rashly. Decision must come, and Rilke knows it will, but he counsels that haste makes waste. Decisions that emerge from loving and living questions about what is good, right, and beautiful have a better chance of leading us to what we ought to do.

Several things happened during the correspondence between Kappus and Rilke. Kappus wrote better poetry, but he came to see what a challenging path awaited him. Rilke kept encouraging the young man, partly by urging him to "hold to what is difficult" and even to consider that, if something is difficult, that may be "a reason the more for us to do it." To illustrate what he meant, Rilke chose his example carefully: "For one human being to love another," he told Kappus, "that is perhaps the most difficult of all our tasks, the ultimate, the last test and proof, the work for which all other work is but preparation" (pp. 53-54). The right decisions, like the right questions, Rilke seems to be saying, are those difficult ones that teach us what love involves and how to live what love requires.

Related themes about love were beginning to form a continent and an ocean away from Rilke's Europe in 1945. Best known for his classic *Invisible Man*, American novelist Ralph Ellison was working on a different narrative when what he identifies as "blues-toned laughter" began to dominate his imagination (Ellison, 1982, p. xiii). Eventually that laughter compelled him to give full expression to its voice, which belonged to an invisible man "who had been forged," the author noted, "in the underground of American experience and yet managed to emerge less angry than ironic" (p. xv). That irony would lead Ellison's invisible man to remark—and he speaks for more than himself—that "I'd like to hear five recordings of Louis Armstrong playing and singing . . . all at the same time."

> Cold empty bed; springs hard as lead; pains in my head;/Feel like old Ned—What did I do to be so Black and Blue?/No joys for me; no company; even the mouse ran from my house./All my life thru I've been so Black and Blue./I'm white inside—it don't help my case./Cause I can't hide what is on my face. I'm so forlorn;/Life's just a thorn, my heart is torn. Why was I born?/What did I do to be so Black and Blue? (Ellison, 1982, pp.7-8)

Ellison's postponed story was to be about an American pilot. Downed by the *Luftwaffe* and interned in a Nazi POW camp, he was the highest ranking officer there and thus, owing to war's conventions, the spokesman for his fellow prisoners. Ellison's pilot, like the author who created him, was Black. Prisoner of racists and also the "leader" of prisoners who in normal American circumstances would not see him as their equal, let alone as their superior, the pilot would have to navigate his way between the democratic ideals he affirmed and "the prevailing mystique of race and color." This dilemma, Ellison adds, was to be "given a further twist of the screw by [the Black pilot's] awareness that once the peace was signed, the German camp commander could immigrate to the United States and immediately take advantage of freedoms that were denied the most heroic of Negro servicemen" (Ellison, 1982, p. x).

The voice of Ellison's pilot, like that of *Invisible Man,* would seem to echo the Black poet Langston Hughes, in his 1938 poem, "Let America Be America Again": "Oh yes,/I say it plain,/America never was America to me,/And yet I swear this oath—/America will be!/An ever-living seed,/Its dream/Lies deep in the heart of me" (quoted in Fossum & Roth, 1988, p. 350). For *Invisible Man* ends where it begins. Ellison's character is in the underground hideout where American life has driven him. He is awakening from a state of hibernation, as he calls it, and his awakening entails writing. Thus, in the novel's epilogue—making poetry out of invisibility, it is, in my judgment, one of the most insightful writings produced by an American writer—Ellison expresses his character's outlook as follows:

> So why do I write, torturing myself to put it down? Because in spite of myself I've learned some things. Without the possibility of action, all knowledge comes to one labeled "file and forget," and I can neither file nor forget. Nor will certain ideas forget me; they keep filing away at my lethargy, my complacency. . . . So it is that now I denounce and defend, or feel prepared to defend. I condemn and affirm, say no and say yes, say yes and say no. I denounce because though implicated and partially responsible, I have been hurt to the point of abysmal

> pain, hurt to the point of invisibility. And I defend because in spite of all I find that I love. In order to get some of it down I *have* to love. I sell you no phony forgiveness, I'm a desperate man—but too much of your life will be lost, its meaning lost, unless you approach it as much through love as through hate. So I approach it through division. So I denounce and I defend and I hate and I love. (Ellison, 1982, pp. 566-67)

In the wake of the Great Depression, another American writer, poet Archibald MacLeish, worked with a set of photographs that documented devastation of American ground in the 1930s. "The original purpose," explained MacLeish, "had been to write some sort of text to which these photographs might serve as commentary." Finding in them vividly what he named a "stubborn inward livingness," MacLeish reversed that plan and produced not "a book of poems illustrated by photographs" but "a book of photographs illustrated by a poem" (MacLeish, 1977, p. 89).

MacLeish called the book *Land of the Free*. Its final page pictures a wizened old man. Hat torn, his soiled suit worn, he does not have it made. Yet he's looking squarely at the camera, jaw set, unsmiling, eyes glinting. Apparently he's asking questions, too. They are not without discouragement, but no one would confuse his expression with despair. It's got too much insistence, too much resistance, too much wonder and determination for that.

"The Sound Track"—that's what MacLeish called his poetic accompaniment to *Land of the Free*. Like features of that old man's face, its closing lines—they are among my favorites—sound like this:

> We wonder whether the dream of American liberty
> Was two hundred years of pine and hardwood
> And three generations of the grass
>
> And the generations are up: the years over
>
> We don't know
>
> It was two hundred years from the smell of the tidewater
> Up through the Piedmont: on through the piney woods:
> Till we came out
> With our led calves and our lean women
> In the oak openings of Illinois
>
> It was three generations from the oak trees—
> From the islands of elm and the islands of oak in the prairie—
> Till we heeled out with our plows and our steel harrows
> On the grass-drowned reef bones of the Plains
>
> "Four score and seven years," said the Orator

> We remember it differently: we remember it
> Kansas: Illinois: Ohio: Connecticut.
> We remember it Council Bluffs: St. Louis:
> Wills Creek: The Cumberland: Shenandoah
>
> The long harangues of the grass in the wind are our histories
>
> We tell our freedom backward by the land
>
> We tell our past by the gravestones and the apple trees
>
> We wonder whether the great American dream
> Was the singing of locusts out of the grass to the west and the
> West is behind us now:
>
> The West wind's away from us
>
> We wonder if the liberty is done:
> The dreaming is finished
>
> We can't say
>
> We aren't sure
>
> Or if there's something men can dream
> Or if there's something different men can mean by
> Liberty. . . .
>
> Or if there's liberty a man can mean that's
> Men: not land
>
> We wonder
>
> We don't know
>
> We're asking

In January 1989, I visited Elie Wiesel, survivor of Auschwitz and recipient of the 1986 Nobel Peace Prize. He told me about the meeting of 74 Nobel laureates that he convened in France in 1988. Among other things, that conference produced a list of 16 conclusions. One of them states: "Mankind's wealth . . . stems from its diversity. This diversity must be protected in all its aspects—cultural, biological, philosophical, spiritual. To this end, the virtues of tolerance, listening to others, and refusing ultimate truths must be unendingly reiterated."

Such a statement is not free of problems, but it strikes some important notes for reasons that another Holocaust survivor, Primo Levi, puts forth powerfully in his book *Survival in Auschwitz*. Early on, Levi described his camp initiation. Once, he reached out a window to quench his painful thirst with an icicle. An SS guard immediately snatched it away from him. "*Warum*?" Levi asked him, only to be told with a shove, "*Hier ist kein warum*" (Levi, 1976, p. 25). Levi's "why?" sought explanation. He got none, because questions of life and death were already settled there. No asking permitted the likes of Levi, in Auschwitz no why existed—not as question and certainly not as satisfying explanation, either.

Auschwitz raises every why, but it did not tolerate the kind Levi posed. Paradoxically, the Holocaust was beyond why, because the minds that produced it were convinced they "understood" why. They "recognized" that one religion had superseded another. They "comprehended" that one race was superior to every other. They "saw" what nature's laws decreed, namely, that there was *lebensunwertes Leben* (life unworthy of life). Thus, they "realized" who deserved to live and who deserved to die

Hitler and his Nazi followers were beyond why, because they "knew" why. Knowing they were "right," their knowing made them killers. One can argue, of course, that such knowing perverted rationality and mocked morality. It did. Yet to say that much is too little, for one must ask about the sources of such perversion. When that asking occurs, part of its trail leads to the tendency of human reason to presume that indeed it can, at least in principle, figure everything out and understand why.

People are less likely to savage and annihilate each other, they are less likely to create or legitimate boots stamping on human faces forever, when they *ask* why instead of *know* why, when their minds are less made up than opened up through questioning. There may be no voice more important to hear about the fatal interdependence of all human actions than that one.

At the beginning of his classic memoir, *Night*, which details his experiences as a man-child in Auschwitz at 15, Wiesel introduces one of his teachers. His name was Moshe, and the year was 1941. Although the Holocaust was under way, it had not yet touched Wiesel's hometown. One day the 12-year-old Wiesel asked his teacher, "Why do you pray, Moshe?" He heard Moshe reply, "I pray to the God within me that He will give me the strength to ask Him the right questions." Wiesel adds, "We talked like this nearly every evening" (Wiesel, 1986, p. 3).

Hearing and living the right questions may not put Borges's "Book of books" into our hands, but there may be no better way to find our way in life's labyrinth. So in a spirit akin to that which lives in the exchange between Wiesel and his teacher, Moshe, one that seeks to nourish the strength that is needed to keep asking the right questions so that they can be heard and lived, I would like to conclude these reflections on teaching with words from 16th-century England. Their voice is a hymn that asks:

God be in my head,
And in my understanding;
God be in mine eyes,
And in my looking.
God be in my mouth,
And in my speaking;
God be in my heart,
And in my thinking.
God be at mine end,
And at my departing.

Amen.

References

Borges, J. L. (1964). *Labyrinths: Selected stories and other writings* (D. A. Yates, J. E. Irby, et al., Trans.). New York: New Directions.

Brown, R. M. (Ed.). (1986). *The essential Reinhold Niebuhr: Selected essays and addresses.* New Haven, CT: Yale University Press.

Ellison, R. (1982). *Invisible man.* New York: Vintage Books.

Fossum, R. H., & Roth, J. K. (Eds.). (1988). *American ground: Vistas, visions, and revisions.* New York: Paragon House.

James, W. (1950). *The principles of psychology* (Vols. 1-2). New York: Dover Publications.

Levi, P. (1976). *Survival in Auschwitz: The Nazi assault on humanity* (S. Woolf, Trans.). New York: Collier Books.

MacLeish, A. (1977). *Land of the free.* New York: Da Capo Press.

Orwell, G. (1983). *1984.* New York: Signet Books.

Plato. (1962). *Epistles* (G. R. Morrow, Trans.). Indianapolis, IN: Bobbs-Merrill.

Rilke, R. M. (1954). *Letters to a young poet* (M. D. Herter Norton, Trans.). New York: W. W. Norton.

Sereny, G. (1983). *Into that darkness: An examination of conscience.* New York: Vintage Books.

Welty, E. (1985). *One writer's beginnings.* New York: Warner Books.

Wiesel, E. (1986). *Night* (S. Rodway, Trans.). New York: Bantam Books.

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